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AGRICULTURAL.

SPECIAL NOTE.—M[illegible]erry writes exclusively for The Practica[illegible]armer, and for no other paper or magazine [illegible]ell your friends if they want to know what [illegible] Terry has to say on agricultural matters eve[illegible]eek they must read The Practical Farmer.

Hungarian, its Cult[illegible] and Compared with Corn for the [illegible]treme North.

J. Buchanan, Fles[illegible]n, Ont., writes as follows: "What [illegible] yield of the Hungarian grass c[illegible] How do you seed and care for it? [illegible]ow does it compare with corn for [illegible]onomical fodder production where t[illegible]season is rather short for corn? Co[illegible] is liable to get frozen here before [illegible]rity." On good land we can grow a[illegible]t three tons of Hungarian hay per [illegible]e, weighed as it is brought in the ba[illegible] When dried out in the mow, of co[illegible]e it would not weigh as much. I [illegible]e seen crops in the North, nearly i[illegible]ur latitude, on poor land, that wer[illegible]rdly worth cutting. It takes good [illegible]d to produce 3 tons per acre. Hun[illegible]ian is a warm weather crop, like co[illegible]ut it will grow in less time. Six[illegible]lays of warm weather will make [illegible]op, if there is rain enough to start [illegible]romptly. As it grows so quickly yo[illegible]an see that it wants fertile land t[illegible]roduce a large crop. It needs all its[illegible]ility in a short time. The seeds are [illegible]t the same size as red clover seeds a[illegible]hree pecks per acre about the right [illegible]tity to use. It doesn't usually cost, [illegible]ver, more than about one-quarter as [illegible]h as clover, so the heavy seeding is [illegible] expensive. It should be sown whe[illegible]e ground gets warm, but not before [illegible]e sow a week or two after corn p[illegible]ng time. The ground should be ma[illegible]ry fine, as the seeds are small, and [illegible]d broadcasted and covered with a w[illegible], or light harrow. Where surface [illegible]not crust after a rain I would roll a[illegible]e. The seeds come up better. If t[illegible]is danger of a crust forming, which [illegible]hard for little plants to get up thro[illegible] you can roll after the crop is up tw[illegible] three inches high. This to make [illegible]e smooth for the mower. Except o[illegible]ht, loose soils one-half inch is deep[illegible]ugh to cover the seeds. If you wa[illegible]od hay, mow when the heads come [illegible]d blossoms appear. You can see [illegible]early in the morning when dew is[illegible] Cut at this time and nicely cured, [illegible]akes fine cow hay, for one feed a [illegible]ay. I write from long experience. [illegible]ert has some 15 tons of it this seas[illegible] needs more curing than ripe tim[illegible] would, but not much more than ti[illegible] cut in blossom. It will not ble[illegible]and damage lying in dew as quickl[illegible]other hay. A very good way is to [illegible]n the afternoon, let it lie all nex[illegible] untouched, rake and cock the follo[illegible] day as soon as dew is off, then dr[illegible] from cock during the next day o[illegible], while the sun is hot. If you have a tedder you may shake it up and cure and cock it the day after it is cut, if the weather is very warm. Of course this plan is for a heavy crop; a thin, light one would cure quicker. When I have been in Maine I have found farmers very friendly to Hungarian. As I remember the Secretary of the Board of Agriculture said it was a close second to the corn crop with them. You cannot grow as much value of seed per acre as you can with corn, when corn matures. But corn takes more work than Hungarian grass, as you can readily see. If one has land enough he can raise a given amount of feed about as cheaply growing Hungarian, probably, as he could with corn. Then he can cut it during hot weather, and put it under cover and that is the end of the job. He avoids the cultivation of the corn crop and the husking and risk from stalks standing out so long to dry. The feed can be put in smaller compass in the barn. The crop can be put in later, giving more time for working land. It can be harvested quicker, where one wishes to follow with Winter grain, as we do, and again, gives more time for tillage. But now let me give you a more careful idea of the feeding value of Hungarian hay. You know the protein in the feed is the main nutrient. A ton of Hungarian hay contains 90 pounds; a ton of timothy 56; a ton of corn fodder (corn grown as fodder, not corn stalks) 50; a ton of corn stover, stalks with ears removed, 34 pounds; a ton of corn grain, 158. You see a ton of corn grain per acre with the stover would have more than twice as much protein in it as a ton of Hungarian hay. I should hardly expect land producing but a ton of corn to bring two tons of hay. The land would probably bring the most nutrition in corn, but no great difference. This is not a fair comparison, however, exactly, as corn grain is a condensed food, and with the Hungarian hay you would have to feed more grain per ton than with corn and stover. Corn leads fairly where it does well. But your question is how Hungarian compares with corn for economical fodder production where there is danger of corn being injured by frost. Considering this risk, and the less cost of handling, and better chance for saving, and the chance to feed purchased grain to bring up the fertility of your land, Hungarian as a fodder crop will probably stand ahead of corn for you.

How Apply Fertilizers.—What Acid Phosphate is.—Ways of Getting Humus.—H. P. Woodsworth, Westfield, Vt., says farmers there generally put fertilizers for corn in the drill. He has broadcasted for two years and wishes to know my opinion as to which is the better way. It is natural for corn to send its roots out two or three feet in every direction. It would seem more natural for it to find food distributed all through the soil, rather than condensed in a narrow strip. The roots take the food in solution. It will be more likely to be dissolved when broadcasted, as more will come in contact with it. This will be particularly important in a dry season. In case of sod turned in, or coarse manure, on rather poor land, so available plant food would be scarce just as corn was starting, one can see how a little fertilizer in the drill might be helpful as a starter, in a cold Spring, until nature could make the general supply more available. But on reasonably good ground, and as a general rule, I should broadcast the fertilizer evenly and harrow it in. The young plants do not need much food and ought to find sufficient in this way and be led out to search for more, and thus be in better shape for business later.

Abram Stull, New Philadelphia, O., asks what the difference is between phosphoric acid and acid phosphate. Acid phosphate is phosphatic rock, mined in the South, and ground, and treated with sulphuric acid so as to make a certain per cent. of the phosphoric acid in it available for plants. There is available and unavailable phosphoric acid. The ground rock, untreated, has been considered practically unavailable; late experiments, however, indicate differently. Now you buy, say a 200-pound bag of acid phosphate. On the bag you find a guarantee of the contents. If it says 14 to 16 per cent. of available phosphoric acid, it means that they guarantee 28 pounds in the 200 pounds of contents of bag. The lowest figure is the one guaranteed, not the average between the two figures given. The available phosphoric acid is plant food, this 28 pounds. You have to apply 200 pounds of acid phosphate, with the above guarantee, to get 28 pounds available phosphoric acid on your land.

F. C. Curtis, Sandy Creek, Me., a florist, hasn't land enough to grow humus and says his soil is deficient in this line. He has no stable manure. He asks: "Can not we add humus by laying in straw in the drills over the seed corn and potatoes?" Very little indeed, to the crop growing in particular. It might help potatoes some by making soil looser for them to set in, on clay land. Humus is formed by decayed vegetable matter in the soil. Its presence would lessen your fertilizer bills and still increase crops. What you need is a sod, manure, straw, a dead crop or something of this kind turned under frequently. I would try to get more land so you can do this.

Health Hints. — Eleven Healthy Children.—Stimulants; the Cool Bath and Drugs.—Dangerous Pills Used Instead of Proper Food.—A modest reader sends the P. F. a remarkable report. They have eleven children, the youngest a baby, and have never employed a doctor but once, and then he did no good. They think that pure air and proper food, particularly fruit, with very little meat, has been the cause of their being so healthy. Not one of the children has ever drank a cup of tea or coffee, neither do the parents drink anything of the kind. They kindly say they know that these hints are correct, and ask for an explanation of the difference between stimulating with a cool bath and with drugs. After reading this letter it came to my mind that these children were happy and contented with their simple way of living, as they have known no other, and their parents live as they do. Contrast the homes, many thousands of them, where children have tea and coffee, meats, pie, cake and other dainties; in fact, almost live on what they never ought to have, and as a result will have weakened constitutions and more or less ailing bodies through a shortened life. If these eleven children are fed largely on rolled oats, graham, or whole wheat flour, bread and butter, vegetables, milk, eggs, good cheese, etc., in connection with their fruit, their chances for good health and strength and long life are decidedly better than those of children who have been allowed to eat much they ought never to have. The child will usually get along on improper food, with occasional spells of sickness; it is later in life that most of the trouble will result, when, the sins against nature, for which the parents were to blame, will have to be attended to.

Now for the question about stimulants. How does a cool bath, followed by brisk rubbing, stimulate? The whole surface of the body is filled with minute blood vessels that are often called capillaries. They are exceedingly small and partly as a result of wearing clothes the blood fails often to circulate freely in them. This is an unhealthy condition because these blood vessels carry away the never ending waste of tissue and bring new material extracted from the food, to build up more. A quick bath in cool water, or exposure of naked body to cool air while exercising, tends to bring the blood to the surface, making it all red, and a brisk rubbing helps, too, and if the matter is not overdone one feels, afterwards, something as though he had drank a glass of wine, I imagine, as I do not drink any. And there is this difference, that the effect of the bath is entirely natural. It helps nature about overcoming the effects of our civilization. It stirs up a sluggish circulation and there is no harmful reaction, with reasonable care. On the other hand the effect of alcohol and drugs is unnatural. It may be best to use them sometimes as a last resort, when the sands of life are running low, but whenever it is possible I would prefer to trust to the natural stimulants of good food, fresh air, cool, if possible, bathing, exercise, etc. It is easy to give a drug that will excite the heart to greater effort, or the kidneys, or other organs, but is the best physician in the world ever sure that he will thus do more good than harm? One can easily put elements in the body that do not belong there, that are unnatural, and stir up a commotion, but who can say certainly what the outcome will be? As I have told you before the best physicians, those that know the most, give the least drugs and depend the most on natural methods named above. Brushing the skin with soft bristle brushes vigorously before bathing, helps along the same line that the cool bath does. Always rub yourself, or exercise otherwise, until warm after bathing to get best results from the cool bath. The above brings to mind another letter from an intelligent minister, and a young man, too. "I have been ailing more or less and paying large doctor bills for years. I was born with a sluggish liver and I have at last found a kind of pills that exactly suits my case. As a result I have been quite well this Summer, by taking those pills every night." Would you believe than an intelligent man in the year 1902 could know or care so little as this about the proper treatment of his own body? And, strange to say, he did not ask me to withhold his name, but I do it out of pity. No, he wanted me to tell the kind of pills he took! Zounds! What can this man be thinking of? The probabilities are that from lack of exercise and fresh air, and eating improper food, he was constipated. The pills relieve this and he feels better temporarily, but it is unnatural. It will take more and more pills to accomplish the result, until in time the bowels lose all power of moving themselves. The end is certain—worse trouble. Oh, how can people be so foolish. I am not afraid but what, if I had this clergyman where I could take care of him, I could make his bowels move naturally and all right without any medicine, inside of sixty days, and cause him to enjoy better health than he has known for years.

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I would make him take a moderate amount of exercise daily and force him to breathe the pure air, and feed him on proper food. And it would be good food that he would relish. He would soon enjoy his meals much more than he does now. He would get but two meals a day. I would soon have him liking my wife's graham bread as much as I do, so white bread would have no more charms for him. And then he should keep up with me eating apples, peaches, pears, grapes, berries, dried or canned, when they could not be had fresh. And we would have prunes, figs, oranges and nuts, and still by leaving out most of the meat probably I could board him as cheaply as he is living now, and no nasty pills and irritated bowels, with serious trouble ahead, but splendid health, better sermons and a longer life.

T. B. Terry.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Fertilizer Formula. — M. G. Robert, Washington, Ga.—"I have the following formula for cotton, and wish to know the percentages, and if it can be improved: Acid phosphate, 1,200 pounds; cotton seed meal, 500 pounds, and kainit, 300 pounds. For corn, acid phosphate 1,000 pounds, cotton seed meal 700 pounds and kainit 300 pounds." The first formula, assuming that high grade Tennessee phosphate of 16 per cent. is used, would be about 10 per cent. phosphoric acid, 1½ per cent. of nitrogen, and 2 per cent. potash. The second would make 8 per cent. phosphoric acid, 2 per cent. nitrogen and 2 per cent. potash. These figures are approximate only, as the materials will vary somewhat in composition. But as we have often said, if you can use the proposed formula on corn at that rate and get back the cost in extra corn you can do more than we ever could. We hope the time will soon come when our Southern farmers will realize that a fertilizer formula is not the only thing needed for the making of crops and improving the land. So long as they assume that for each crop planted they must use a certain formula of fertilizing materials, and depend on the fertilizers to get the crop there will be no improvement in Southern agriculture. The formula you propose for cotton will answer very well, and it will pay to use on this crop far more than 200 pounds per acre. Then get your rotation so arranged that your corn will come on a crimson clover sod sown among the cotton, and that it gets all the home-made manure, and you will not want any formula for it. Then if you farm right you will never need to buy any nitrogen but what you get back from exchanging your cotton seed for meal. Then feed this properly and judiciously to stock in connection with pea hay and corn fodder, and you will soon be making manure enough for the corn Stock feeding is the foundation of all success in farming North or South. Nine-tenths of the Southern cotton farmers are now simply the agents of the Fertilizer Trust.

Keeping Sweet Potatoes. — "I have just read your summary on keeping sweet potatoes, and am contemplating building a house for the purpose to hold about 1,000 bushels. Would like to have your plan for such a house." A house for the keeping of sweet potatoes should be long and narrow. One about ten feet wide and forty feet long and eight feet to the eaves would answer your purpose. The walls should be made of 2x6 studding, sheathed and weatherboarded on the outside and ceiled inside, the space between being packed with sawdust. The ceiling overhead should also be double and packed. Wooden ventilators should reach above the roof with doors for closing them. Slatted shelving should be built on both sides of a central walk so that the potatoes need not be piled deeper than 18 to 20 inches. In a shed at the north end of the house have a large stove and take the pipe from it overhead through the length of the house. When the potatoes are in, after having dug and handled them with care to prevent bruising, start a fire and run the temperature of the house up to 90 degrees and keep it there till the potatoes have dried off from the sweat and here and there you can see one starting to sprout. While curing keep the ventilators open in day time only. After they are dried off shut up and then look after the house and see that temperature never gets much higher than 50 degrees nor lower than 45, and you will have no trouble in keeping the potatoes. One man in South Carolina to whom we gave these directions told us in August following that his potatoes had kept so well that he was then feeding hogs on the previous year's crop.

Corn Breeding. — S. C. Miller, Baltimore, Ohio.—"1. What causes the ears of corn to grow so near the top of the stalk? Is it from too close planting, or has the selection of seed anything to do with it? 2. Will ears fertilized with the pollen from barren stalks have a tendency to increase the number of barren ones? 3. Have you experimented with hill and drill culture, and which is the better way? 4. What is the best depth for planting? 5. Which are the most profitable to grow, taking the average of seasons, the early, medium or late varieties? Can the early varieties be planted closer than the later ones and thus be made to produce more per acre?" 1. Very close planting may possibly have something to do with the ears growing near the top of the stalk, but the chief reason is that in the selection of seed farmers, as a rule, take the ear that grew highest on the stalk, because that is always the finest ear, and this tends to make the ear grow higher and higher from the ground. 2. Pollen from barren stalks will certainly increase the tendency to make more barren stalks, and in breeding seed all such should have the tassels removed before the pollen is ripe. 3. We have cultivated corn both in hills and rows, but where we now live there is no experimenting along this line, since corn must be planted in rows around the contour of the hills and straight rows are entirely unknown on Southern uplands. On any land we believe that stalks standing singly in rows will make more corn than when three or more are crowded into a hill as is common in the North. In fact, we have not check rowed any corn for many years. 4. The proper depth for planting corn will depend on the character of the land. Generally about two to three inches. In the dryer sections of the West it is common to use a lister and plant quite deeply below the general level, working the soil to it as it grows, but in the East we plant near the surface and usually about two inches deep, after the corn planter has rolled over the row. 5. No general rule can be given as to the profit of the varieties of early, medium and late corn. In the northern part of the corn belt we would always plant an early variety, and these early sorts that have been originated in the North are generally of a smaller stature and admit of closer planting. In your part of Ohio your season should be long enough to enable you to ripen a medium if not a late corn. You will find, we believe, that there is never any real advantage in getting corn far north or south of your section, but that the best corn for any latitude is the corn that is bred there, and has become acclimatized to the region. On the high plateaus of Western N. C., 3,000 to 4,000 feet above the sea level, they grow a small stalked, early corn because of the shortness of the season. This corn is productive there. But when brought into the lower and warmer parts of the State it is simply useful as an early roasting ear, and is far less productive than the corn commonly grown there. You should breed your own seed corn by careful selection from a seed patch that has had all the barren stalks removed and from plants that come nearest the style of corn you want. There h been a great deal of talk in the Wes of late about the kind of ear to select f seed. But you should get the kind of ant you want first and then when you ve the desirable character of plant it will be time enough to go to measuri ears and studying their shapes. T first thing is to breed for a sturdy plt that bears its ears nearer the groul, and has a pair or more of ears. hen you get the character of plant es lished, then carry the selection to the r itself, not always, if ever, selecting s ply for the size of the ear, for if you d that you will at once go to breeding b kward. But select the most perfect ea in shape and finish from the most p luctive plants. Keep this up year af r year and you will finally get what u want. If you were further North t matter of earliness would be of mo importance, but you are south of the th parallel and ought to be able to rip any productive corn.

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MUTILATED PAGE

Wood Ashes, etc. — Bert Huston, Mena, Ark.—"1. What value have wood ashes as a fertilizer for fruit trees, strawberries and vegetables? 2. What is the best fertilizer for strawberries and raspberries? 3. What are the best grasses for this county, and how should the land be prepared and fertilized for them? 4. What kind of tillage, and what fertilizers should be used on cabbage, potatoes and onions? 5. How shall I make the heaviest growth of cow peas? Soil light and sandy with red clay subsoil, part upland and part creek bottom. I have just ten acres and want to compete for a prize of $100 for the best ten-acre farm in our county. Judges will decide about the middle of July next, and I wish to have the farm in the best possible condition. Have seven acres of old land that was in peas last Summer and is now in rye. Balance new land just cleared. I have just moved here and am not acquainted with the land here. Have a limited supply of stable manure, and can get forest leaves nearby, and wood ashes y hauling four miles, and manure at 25 cents a load at the same distance." 1. The value of the wood ashes will depend on the kinds of wood from which they are burned and the condition in which they have been kept. They are valuable mainly for the percentage of potash ey contain and the smaller percentage of phosphoric acid. There is also a large percentage of lime in them. They are valuable as a fertilizer on any crop, and especially on fruit trees. If you can get ashes from hard-wood that have been kept out of the weather, merely for the hauling, it will pay you o haul and use them liberally. If ey are sawmill ashes and have been exposed to the weather they are not worth a great deal. 2. There is no manure better for small fruits than stable manure. The only difficulty is that it is apt to bring in grass and weeds among the strawberries. Our strawberry growers use about 1,000 pounds per acre of a mixture of acid phosphate, cotton seed meal or fish scrap, and muriate of potash, say 900 pounds of the first, 0 of the cotton seed meal and 300 pounds of the potash. This is applied partly in the Fall and partly in Spring. 3. You do not say what your county is, d queries of this sort should always g the county, but turning to the P. O. Guide we find that you are in Polk Co., the western part of the central division of the State. On your creek bottom land we would use meadow fescue and red top, the first an early grass and the last a late, one making the greater part of the aftermath. The land for grass should be well plowed and then harrowed till as fine as an onion bed before sowing. Grass seed should always be sown in the Fall in your section, but if the season is favorable the Spring sowing may succeed. There is no fertilizer better than stable manure for the grass, but in its absence the fertilizer mixture mentioned above will answer very well at rate of 500 pounds per acre. The same fertilizer will give good results on the cabbages and other vegetables if used liberally. Thorough preparation of the soil and rapid and shallow working are the essentials. 5. Give the peas a liberal dressing of acid phosphate and muriate of potash mixed at rate of five parts of the first to one of the last named. Prepare the land well and sow a bushel per acre early in June or last of May. You cannot take old, run down land and make a model farm of it at the start, no matter how well you fertilize and manure it. The improvement of land is a matter that requires years of systematic work, and your questions seem to indicate that you know very little about farming, and have much to learn. You will find full instructions in regard to all these matters in the book "Crop Growing and Crop Feeding," which you can get from The Farmer Co. for 50 cents in paper, or $1 in cloth. Study this book carefully and we think that it will help you.

Wants to Get Out of the Old Ruts.—John Linder, Olney, Ill., who makes the mistake of using a pale lead pencil, and writing on both sides of his paper, says that he learned at a recent Institute that his soil needs lime. He finds that he can get slacked lime in sacks in Louisville, Ky., for $3.50 per ton, and wants to know if it would pay to use it at that price. He is also offered a fertilizer from Chicago, containing 10 per cent. phosphoric acid and 2 per cent. of potash at $20 per ton delivered at his station, and asks our opinion of this. He wants it for cow peas. Wants to build up his land with cow peas as they do well there. Is undecided which would be best, to keep a few cows and hogs and pasture the peas mainly with hogs, or to keep sheep and put up the peas entirely for hay. Has now 22 sheep, 5 horses, 12 cattle, 2 sows and a boar and 5 shoats. Is making all the manure he can and will put it where he sows peas and supplementing it with fertilizer. "When would be the best time to apply lime, and how? Last Summer where manure was put on the peas I found root tubercles, but none where the land was not manured. We raise the Black Eye, Whippoorwill and Red Ripper. Red Rippers stand the drought best. I want to improve and get out of the old ruts." There is no doubt that on your prairie soil lime will have a good effect. But do not apply it to the cow peas, for in all of our experience and observation a direct application of lime to cow peas did more harm than good. Nor would we put our farm manure on the peas. The fertilizer mixture you mention is about as good as is needed for the peas and probably as cheap as you can get in your section. You might possibly get the Tennessee acid phosphate in Louisville for less money and could buy the muriate of potash to mix with it, for your prairie soil needs potash, though your clay timber land may not. Then $3.50 per ton for slacked lime is a pretty good price, for it will not take more than eight or nine bushels of lump lime to make it, and you ought to be able to get the lump lime for $1 to $1.50. One bushel of good fresh stone lime should slack three bushels ready for the field, and you will have to freight but the one bushel to get the three slacked. Then, too, freshly water slacked lime is far more effective than the air slacked lime that is offered to you. The place to put the lime will be for the crop following the peas, whether that be corn or wheat. If corn, then spread the lime at rate of not more than a ton broadcast, or say 20 bushels of slacked lime per acre. Put it on the land after it has been prepared for planting corn, for it will go down fast enough through the whole soil and should never be plowed under. We think that in your section you will find that the large Black cow pea will be best. We think, too, that you can get more profit out of it by making hay and feeding lambs in Winter for the Chicago market. You ought to be able to get the Western range lambs in the Fall at reasonable prices, and by feeding them on the cow pea hay during the Winter you can not only make them pay well but will get a very valuable manure for your land, and we think that this would pay you better than raising the sheep, though, of course, you could still raise some. Neither should you abandon cattle and hogs, but simply make the sheep a specialty and make your own pork.

Brome Grass.—White Grubs. — C. E. Knote, Green's Fork, Ind.—"What is the feeding value of brome grass; what kind of land does it grow on? Will it pay on land where blue grass grows luxuriantly? Has it any advantages over orchard grass? Will it make good hay? Give the life history of the white grub or May beetle." You do not say which of the brome grasses you mean, but we assume that you mean the bromus inermis that has been talked about so much of late. It is not a good meadow grass for your section. It has good qualities as a pasture grass for the arid regions where other grasses fail. We have no analysis of it at hand and know of no feeding experiments that have been made with it to test its food value. If blue grass grows well with you, you do not need any of the brome grasses. The white grub is the larval form of the May beetle or June bug. The female lays her eggs preferably in a grass sod in June, and they hatch in about two weeks. The grubs eat voraciously on the grass roots, but grow rather slowly, and it takes them two years to get their growth feeding all the time on the roots of grass, strawberries, etc. When grown, the grub makes an oval cell from three to ten inches below the surface, and goes into the dormant or pupa stage for about three weeks, when the beetle is perfected, but remains in the earthen cell until the following Spring when it comes out fully hardened, and at once pairs, deposits its eggs and dies. It will be seen then, that the life of a single individual is about three years.

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Points to be Considered in the Economic Production of Beef.

Extract from an address delivered by W. J. Kennedy, Vice-Director of Iowa Experiment Station and Professor of Animal Husbandry, Iowa Agricultural College, before Iowa State Farmers' Institute.

A prominent statistician, in a recent report, has very clearly shown that the greatest gain in wealth, education and population in this country has taken place in those States where farming and the production of first-class live stock are being carried on together. This has been amply illustrated throughout the corn belt States, and in this respect we as Iowa people, may well be proud of the fact that our State stands first and foremost of them all. When comparisons are made in almost every instance Iowa is used as an illustration of what live stock, when properly bred and cared for, can do for the farmer.

Notwithstanding the fact that we are in the very front rank, we still have a great deal to learn regarding the production of the various kinds of meat producing animals. High priced farm lands and strenuous competition from many sources are daily making the profitable production of meat a more difficult problem. Things are very much different to what they used to be when land was worth from twenty to forty dollars per acre and corn could be purchased for twenty cents per bushel. In order that we may successfully meet these changed conditions which have been brought about by the marked advances in the value of farm property our former methods may have to undergo some modification. Not that the stock men who bred and fed animals during the last two decades were ignorant men and did not understand their business. They, as a class, were just as intelligent, and solved the problems which confronted them in a much better way than most of our men are doing today. Old time methods which can be successfully applied under present conditions must not be replaced by new and untried theories. Before adopting any method, new or old, we should consider very carefully as to what the outcome will be; as to where we will land should we follow the same. In this connection I am reminded of an epitaph which is to be found in a cemetery in old Virginia, which reads as follows:

> "Remember, man, as you pass by;
> As you are now, so once was I;
> As I am now, so you must be;
> Prepare for death and follow me."

The Virginia epitaph, however, has received an addition in the following couplet, which has been written below the original in a clear, old-fashioned hand:

> "To follow you is not my intent,
> Until I know which way you went."

Just so in the live stock business; before following the methods of those who have been successful we must be sure of what the outcome will be under the present conditions. It is not my intention to dwell on the production of live stock in general as I have been asked to discuss a few features pertaining to the economical production of beef. In the past no branch of live stock, save the fat hog, has been so generally handled throughout this State as has beef cattle. Iowa's natural conditions have been most favorable and have done much towards making her the greatest breeding and feeding centre of the Central West. Her virgin soil was so well adapted to the production of corn and the growth of blue grass pasture, the two things which, when combined, have no equal for economical production of beef of the very best quality. Then she is situated between the range territory, where so many cattle are grown, and the leading cattle market of the world. These conditions have been of untold value to the Iowa farmer. Notwithstanding these advantages, in many sections of this State farmers who formerly reared and fed cattle for the market are no longer engaged in the business. They claim that with land selling in the neighborhood of one hundred dollars per acre that it is too valuable to carry stock on. When land was cheap they reared their own cattle, when land advanced in price to fifty or sixty dollars per acre they changed their business and became cattle feeders, but now, since land has made such marked advances in value, they are compelled to go out of the business. We are glad to note, however, that we have a great many very successful beef producers. Men who reared cattle when land was cheap, when land advanced and who are still successfully and profitably rearing and finishing cattle which, when consigned to market, always command the very top price. We have had, and are likely to have for some time to come, two classes of men engaged in the beef cattle business. The first class, which at one time was much the larger of the two, might be called the "beef grower." He reared his own calves, fed and finished them for the market. To the second class belong that now large number who might be termed "cattle feeders." They do not pretend to rear their own cattle, as during a part of the year they have no cattle whatever on the farm. They buy their feeders from the ranges or from the small farmer who rears a few calves each year. One of the most vital problems which many a farmer has to solve at the present day is where he should classify. Will he be a beef grower or a cattle feeder? At the present day and under existing conditions there is room for both. Where good judgment and common sense business methods are applied a man can make a success of either method. Both methods have their advantages and disadvantages. The man who rears his own cattle can control the quality of the animals he feeds. On the other hand, he must force them from the day they are dropped until ready for the butcher if he hopes to realize a profit on our present high priced lands. He has a herd of breeding cows to feed and care for the year around. Can he afford to keep and feed a cow for the calf alone? It takes a good calf to bring twenty-five to thirty dollars at weaning time, while at the present prices of feed stuffs it will cost at least thirty dollars per year to feed a cow. This looks like a losing proposition and it surely is on high priced land. This leads up to the question of milking cows, something which the average man does not take kindly to, but a question which sooner or later he will be obliged to solve. In England this question has been solved. Over there the first requisite of a beef cow is that she be a fair milker. A cow that will not give a liberal flow of milk is condemned. At the Iowa Experiment Station we have cows of more than one of the recognized beef breeds which, in addition to possessing the desired beef form, have produced from three to four hundred pounds of butter per year. We have also found that when the milk is separated while warm and fed directly to the calves that, by addition of some flax seed meal, oat meal, or corn meal to the skimmilk, practically as good calves can be reared as when whole milk has been fed. The butter fat, when separated from the milk, netted us from fifty to eighty dollars per cow. Calves from these cows, fed on skimmilk and the adjuncts mentioned, have been marketed at twenty-six months of age when they weighed over fourteen hundred pounds. When land reaches the one hundred dollar mark it requires careful farming and stock raising to return a paying profit on the investment. But the Iowa farmer must not abandon stock raising, else his land will surely deteriorate in value. In many of the Eastern States when land advanced in value the owners considered it too valuable for stock raising, thus in many instances they went out of the business. What has been the result? There is but one outcome to any such practice, which is worn out farms, which, in many instances, have been deserted. They have been taught a valuable lesson, one which the farmers of the Central West should not have to learn through experience. Successful farming cannot be carried on continuously without live stock. Commercial fertilizers may apparently answer the purpose for a short time, but soil fertility may only be maintained in one way and this is by stock farming. In England stock farming is the mainstay of the farmer and land is worth twice as much as what it is here. In the Island of Jersey land rents around twenty dollars per acre, still live stock, especially dairy farming, is their main occupation. If Iowa farm lands are to maintain their present values, and they surely will, it will be because the farmers will adhere to the live stock business. In this respect no line of live stock is better adapted to our conditions than beef cattle when produced from dual purpose cows. The cow that will net her owner forty dollars or upwards for the butter fat sold and at the same time produce a calf which can be marketed at the age of two and a half years, weighing in the neighborhood of fifteen hundred pounds. Such a method is practicable and when adopted by the Iowa farmer he will not consider land too valuable even at one hundred and fifty dollars per acre for the economical production of beef

(Concluded next week.)

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VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 1016 Davis St., Evanston, Ill., who has editorial charge of this department. All inquiries requiring answer by mail must be accompanied by a fee of $1 each.

Abortion.—I have a young cow that has lost two calves before they were due. She milks all right after calving. E. L.
St. Louis, Mo.

You will find full particulars regarding abortion in back numbers of the paper this question having been answered frequently in this department.

Feeding Mare and Colt. — I have a very fine mare, 8 years old; in foal since May 15th. She is very nervous; very ambitious. What is the best food to give colt bone and muscle? Have corn, oats, bran, millet hay and fodder. What is good for her nervousness? She is three-quarters thoroughbred. D. STUART RENFRE.
Elizabethtown, Tenn.

Feed oats and bran with fodder and carrots or other roots, but do not use millet hay for pregnant mares. For colt use a mixture of three parts oats, two parts bran and one part corn meal (or oil meal is better). It is the corn that does not produce bone and muscle; it forms heat and fat. For the nervousness of the mare during pregnancy, which might end in abortion, give ½ ounce fluid extract of black haw once or twice daily as required.

Indigestion.—Please tell me what is the matter with my mare and what to do. She is ten years old. Eats well, but when in the stable is constantly rubbing and scratching her neck and head. She is very steady and slow going, but when in harness at work is incessantly champing her bits and frothing at the mouth. AMBROSE PEARMAN.
Sullivan, Mo.

Please consult back numbers of the P. F. in which you will find much information regarding this condition under head of "indigestion" and "itching mane and tail." We find where chicken lice are not the cause, that the condition described arises from overfeeding on corn or other grain, in hot, filthy, badly ventilated stables and from not exercising and grooming the animal daily. To cure, stop grain feeding for a month or longer, if necessary, and substitute such foods as carrots and bran mashes. Clip horse, set stable right if unsanitary conditions exist. Give animal box stall when in stable and exercise or work hard every day. Allow salt to lick at will and give half an ounce of Fowler's solution of arsenic twice daily. The tail should be well washed with soap and hot water, then, when dry, saturated with a solution of raw linseed oil, flowers of sulphur and Chloro-Naptholeum. It is well to wash for a few days with a 1-75 solution of the Chloro-Naptholeum and then apply the other lotion. Medicinal treatment is useless, however, without the proper feeding and management referred to.

Swelling.—I have a mule that got cut on wire just above the fetlock joint, some 3 months ago. The wound healed up, but when he stands up in stable it swells up and will go down when in use. C. A. KING.
Carsicana, Mo.

Rub the part twice daily and then when dry apply a derby bandage. Give internally one drachm each of dried sulphate of iron and powdered saltpetre twice daily. Let him have a box stall in barn and see that he is well exercised or worked every day.

Actinomycosis. — I have a cow three years old that has a lump on her right jaw. Soon after she was fresh last Winter she began to get poor and fall in her milk. I fed stock feed and sulphur and a lump began to grow on her jaw. Then a soft place came in the lump, which I had cut open. A thick matter ran from this for a short time, but soon healed up. At the present time I am feeding stock food, but the lump continues to grow. It is now as solid as a bone.
Chaneysville, Pa. MRS. J. ROBINETTE.

The cow is afflicted with actinomycosis, due to the ray fungus known as actinomyces. It will be necessary to lay the tumor open and scrape the bone, after which swab the part well with a saturated solution of bichloride of mercury, made as follows: Take one ounce of water, two drachms of bichloride of mercury and one drachm of hydrochloric acid and rub together in glass mortar, then place in rubber stoppered bottle. This is a strong caustic and should not be used on any place except inside of wound. As cow is pregnant she cannot safely be given iodide of potash, which is specific for this disease (lumpy jaw). After the calf comes wean the calf and give cow one drachm of iodide of potash three times daily until cow discharges from eyes and nose, loses appetite and has scurfy skin; then stop for a few days and commence giving one drachm of iodide twice daily until tumor heals up. This is only to be used if the tumor is still discharging after cow comes in. Until then, after above scraping and swabbing, paint the enlargement once daily with tincture of iodine. So long as the cow does not become emaciated or have a discharging sore in mouth connecting with the external tumor there is no danger in using the milk, but most folks prefer not to use the milk of cows so affected.

Feeding Weaned Colt. — I would be pleased to have you tell me how to keep a sucking colt from falling away when I wean it. She is very fat now and I do not want her to fall away. LAMBERT CRAIG.
Clark, Pa.

Before weaning a colt provide a mixture of two parts of crushed oats and one part bran in a box fixed so mare cannot get at it, but colt can take what it wants. The colt will early learn to eat this food and the amount should be gradually increased as weaning time draws near. At the same time the mare should be reduced in milk flow gradually by withholding rich food such as goes to make milk. As mare commences to let up in milk production commence applying camphorated oil to her udder and let colt suck but three times daily. In this way there is no sudden weaning of the foal and the mare is more safely dried up than can be done where the foal is taken from her when she is making a full flow of milk. Towards weaning time the foal may also be allowed some nice, clean prairie hay, and if it is desired to force the foal there is nothing better for him about weaning time than flax seed jelly in milk. Cow's milk should be used, but may be reduced one-fourth with water and should be sweetened with sugar. See to it that the colt has a dry bed in a roomy box stall where the sun can enter and with yard attached for exercise. When foals become thin after weaning it is because they are given a lot of coarse food which they cannot digest and are too suddenly taken away from the dam's milk. A few chopped carrots will also be found good food for young foals, but they must be very carefully used at first. It is important to watch the bowels of weaned foals, as they are apt to become constipated and where this is noticed flax seed jelly should always be used, and, if necessary, a dose of castor oil may be given in milk, or injections of soapy warm water be thrown into the rectum with a large syringe.

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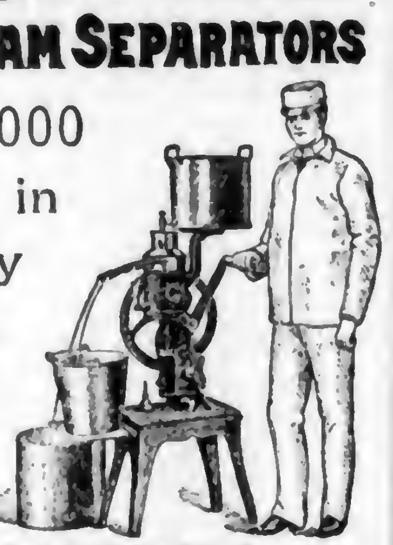
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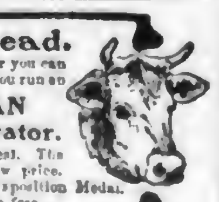

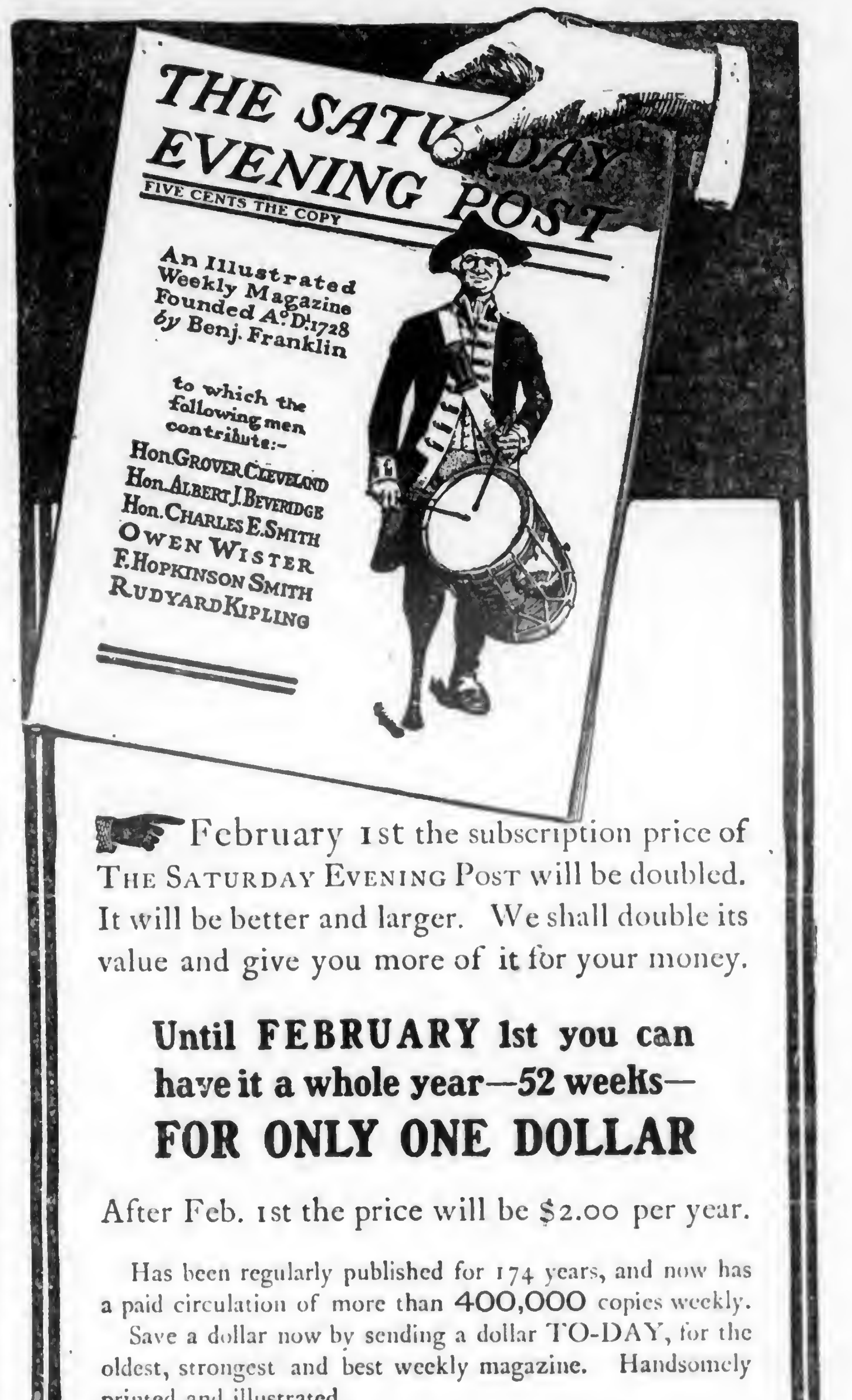
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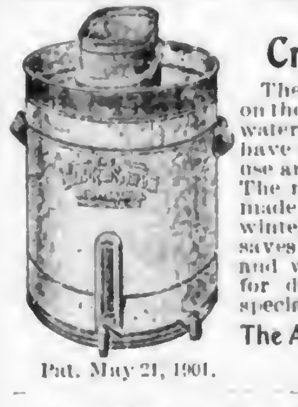
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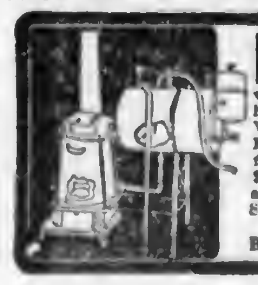
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THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

Talks on Timely Topics.

Hotbed Soil.—Don't forget that early next Spring, possibly long before the ground thaws open, you will need some soil for your hotbeds and cold frames. If not stored up before the real cold of the Winter is upon it, you may find it a hard job to hunt it up, or dig it up with pick, shovel and blasting powder, when you come to need it. Somebody says: "Store your hotbed soil now in some place where you can get it when required. Freezing, of course, will not injure it; on the contrary, it will benefit it, but pile it up in conical shape and cover it with any kind of litter, so you will not need to quarry it out when wanted. Any dry place will answer, and it will save much time in getting the early hotbeds ready for use. When handling it over, mix in at least one quart of air-slacked lime to the bushel of soil. See that it is mixed in thoroughly, and the condition of the soil will be very greatly improved. If farmers and gardeners only knew the benefits of lime in their soils, there would be carloads of it used where now there are not bushels used. It will correct the acidity, and destroy insects and fungus diseases and the hotbed soil will be very greatly benefited."

The selection of soils should be made with a view of meeting the requirements of the particular crop you wish to raise. If you intend to raise onion plants, a few inches of clear sand resting on a layer of old compost, for instance, from last year's hotbeds, or scrapings fresh from the barnyard, will answer. For cabbage plants I would prefer an ordinary clay garden loam with a fair percentage of lime mixed in. For starting tomato plants I would want a nice fibrous loam, while for the later stages of these plants I would want the soil of only medium richness in order to avoid over stimulation and excessive succulency of the plants. For egg plants you can hardly have the soil too rich and fibrous, etc. But the advice to mix some lime with the other soils, is good and safe in a general way.

Vegetables Under Cloth.—It was perhaps with a great deal of expectation that I and others tested the new plan of growing vegetables under a cloth tent. My own trials were not extensive, it is true; celery was the particular crop grown under cloth, and this only under a simple cloth covered frame in A-shape, the ends being left open, besides a lot of lettuce grown in a common cold frame covered with cheese cloth. The lettuce was a disappointment. It was not equal by a good deal to the lettuce grown under glass, or later on in open ground. The celery under the cloth covering grew faster, larger than in open, but it was by no means exempt from blight attacks as I had hoped. Altogether the results were disappointing. It is reported that a gardener of Hartford Co., Conn., planted cucumbers and melons in his tobacco tent. He obtained a good growth of vine, and that was about all. The cucumbers blossomed; Some grew one-half or three-quarters of an inch long and then shriveled up. This might have been due to the flowers not being pollenized in the natural way through the agency of bees. When the doors of the tent were opened, the bees came in freely, and after that some cucumbers grew large enough for small pickles. Strawberries are said to have been grown under cloth on Long Island with great success, the fruit maturing two weeks earlier than in the open. But bees must be allowed free entrance. Some wild dandelions along the edges just inside the tent made an enormous growth. It appears that the cloth used for covering is good only for one season. When there is a fair breeze stirring there is not much difference between temperature inside and outside. On a still day it is different. A tent will afford protection from an ordinary white frost, but not from a heavy frost.

Another Hartford county tobacco grower planted cucumbers, watermelons and tomatoes under such a tent. The vines grew better inside than outside, but yielded hardly any fruit and the little that set shriveled up. The tomato vines grew large, but the fruit that set and ripened was very small, due, probably, to the absence of bees, etc. Still another gardener of that same vicinity reports that the cloth tent did not protect melon and other vines grown under it from mildew. The consensus of opinion of most people who have thus far given in their reports seems to be that fruits and vegetables can be raised to just as good advantage in open ground, with equal care, as under cloth.

All this I regret to hear. I have had hopes for great results from the new plan. But these reports are interesting to many of us just at this time, in view of the fact that some genius offers a contrivance consisting of a hood of muslin supported by a cross of wires fastened to a sheet iron ring, and promises wonderful results from its use as a miniature "hotbed." The contrivance, undoubtedly, will be of great service as a protector for small plants, vines, etc., against insect attacks and possibly from ill effects of a very light frost, but that is about all that can reasonably be expected from it.

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Notes from a Carolina Garden.

It is rather curious to note the various habits of different markets. In New York and Philadelphia no lettuce will sell but the cabbage headed type like the Big Boston, while from Pittsburg westward they do not want these, but do want the curly varieties like the Grand Rapids. And we think the Western people have the best taste in the matter, for the Big Boston is to our taste about the poorest of lettuce. We are now (Dec. 8th) eating the finest of white, crisp lettuce from the open garden. This is Maule's Improved Hanson and the Wonderful. We are selling the Big Boston because the market wants it, but we do not care to eat it when we can get the others. The two lettuces named both make exceedingly firm heads, but have a wide spread of outer leaves that requires wider planting. They are also less liable to the stem rot than the Big Boston, and in quality are as far ahead of the Big Boston as it is possible for lettuce to be. It has always been a matter of surprise to me that there is so little attention paid to the family garden in Winter in the South. Nine out of ten gardens now have nothing in them except perhaps some turnips and long legged collards, while it is easy in this sunny climate to have plenty of the hardier vegetables all Winter without even protection of glass. We are now getting from the open ground fine young onions, excellent, crisp radishes, spinach and lettuce as well as turnips. Our early cabbages will be set in a few days on a north slope to protect them from the morning sun when frozen. As we have good strong plants we expect to get good results. Strawberry plants live better here when set in December than at any other time, and we are getting at them now. We will discard a number of varieties we have proved worthless here and will try some of the newer ones.

In the flower garden the Paper White narcissus bulbs are blooming, and the Roman hyacinths have their flower spikes well above ground and will probably have flowers open by Christmas day. Violets are showing few flowers now, but will commence again when the sun begins to climb northward again. For the open garden we prefer the White Italian hyacinths to the Romans, as they make larger spikes and come later so that the flowers do not get nipped by sudden freezes as the Romans are apt to be. So far Winter has touched us lightly. The rose geraniums are hardly injured at all, and the zonals are scorched but not killed. The naked flowering jessamine, Jasminum Nudiflorum, is gay with its yellow flowers, but the famous yellow jessamine of the South, which festoons the trees along the roadside in many places, will not be in bloom till early March. Camelias and Chinese azaleas are full of buds and promise a great bloom later. Plumbago Capensis proves to be a reliable hardy herbaceous plant here starting from the roots in Spring and blooming profusely the whole season. I have plants that have been in the open ground through two hard Winters and have barely stopped blooming now. Justicia Velutina has also survived in the open ground in a sheltered place and made a big clump gay with bloom all Summer. The big Erythrina Crista Galli in a neighbor's lawn, now over 20 years old will now be cut off at the surface of the ground as usual and have a mound of sawdust placed over the stump, and will make a great show again next Summer. The sweet bush honeysuckle is breaking into bloom and fragrance. This is Lonicera Fragrantissima, and being perfectly hardy, it should have a place more commonly in the Northern shrubbery. We have two varieties of our native Callicarpa, the typical one with clusters of purple berries and a white one. Both are now very handsome in the shrubbery, and I believe are hardy enough anywhere. The purple berried form grows plentifully along our roadsides, but the white, we believe, is a garden variety.

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Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Keeping Plants in Cellars.

Meeting a reader of the P. F. lately, he expressed a desire to be informed how best to treat an assortment of pot plants, such as geraniums, fuchsias, hydrangeas, lemons, oleanders and the like, which, for want of better facilities, he had to accommodate in his cellar. I gave him what information I could; at the same time it occurred to me that many others besides him would be glad of a few hints on the subject. Many years ago I had charge of such a cellar, and managed to bring the plants through in fair condition. Usually there is too much moisture present, but where ventilation is easily obtained no great harm need come from this cause. In mixed collections of plants much care is required because some need a fair share of water all the time, while others require next to none. In the list mentioned above, for example, the hydrangea, geranium and fuchsia must be given barely enough to keep them from dying. They need be as near dormant as possible, as the least moisture sets them growing, even in a very low temperature. Kept so the wood does not shrivel is sufficient, a little water being given towards Spring, when the time is close for bringing them up from Winter quarters. Leafy plants, such as the oleander, need a little water; so do such deciduous ones as pomegranate, crepe myrtle and other things which have to be housed in the North. Century plants need no water, or next to none. The moisture in the cellar seems sufficient for them; and too much moisture with a low temperature will sometimes result in the rotting of them. Give air whenever the outside temperature will admit; and light is good all the time, as much as can be admitted. Many plants desiring more heat than a cellar affords, can be brought through a Winter safely in such a place if kept rather dry. The low temperature will be borne when unaccompanied with moisture. Towards Spring, fuchsias and geraniums may be pruned in closely if bushy plants are required. In any case both are the better for a good cutting back. Hydrangeas must not be cut back at all, or much of the flowering wood will be destroyed. The time to prune hydrangeas is when the flowering is over, in Summer: The new shoots made later are the ones which give flowers the following season.

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The daily use of these lozenges will soon tell in a much improved condition of the general health, better complexion, sweeter breath and purer blood, and the beauty of it is, that no possible harm can result from their continued use, but on the contrary, great benefit.

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Horticultural Notes.

Raspberries.—While it may be true that Loudon is "the finest red raspberry," and that the Miller "is creating a furore," as some advertisements have it, there is no doubt that the red raspberry for all purposes is the Cuthbert. It is the best all around variety there is.

Superseded. — Florists say that smilax, which used to be grown in large lots by them for use in cut flower work, is now almost superseded by the Asparagus Plumosus, the sprays of which are finer and more graceful than the smilax.

Spiraea Japonica, or Astilbe Japonica, as some catalogues have it, is not only a lovely border plant, but is a very useful one for forcing in pots in Winter. It is quite usual to find it in florists' windows in the Winter season. Its white flowers are produced in clustered spikes.

The Common Lilac is now often grafted on the Californian privet to get up a stock quickly. These plants flower at a younger age than those on their own roots, therefore making good subjects for forcing in pots, for which purpose florists are using them.

Shade Tree. — For a permanent shade tree near a dwelling there is nothing better than a Norway Maple. While not as tall a grower as some trees, it forms a spreading, round-headed outline and soon gives a good shade.

Not Justified.—The reputation the yew has for producing poisonous berries is not justified. Bushes near here produce fruit, and children eat them with no ill effects at all. In Europe it is claimed its partly dried branches are poisonous to cattle.

POULTRY.

This department is under the editorial charge of A. F. Hunter. All letters, inquiries and requests should be addressed to him at the Practical Farmer office, P. O. Box 1317, Philadelphia.

The Care of the Droppings. Profit from Poultry Keeping.

An interesting letter from John P. Bowie, Esq., Washington, N. C., encloses an article clipped from the poultry column of the Country Gentleman a few weeks ago and asks that we criticise it. The article claims that "droppings boards are folly," that cleaning them is "slavery," and recommends that a box be set under the roosts and that buckwheat hulls, sifted coal ashes, chaff or very dry sawdust in the box catch the droppings and an occasional stirring up of the material and droppings does the business. Cleaning the houses once in three or four months is all that is necessary, and the man wrote that the stuff he had cleaned out of his houses at the end of four months "was odorless, and dry enough to fly in the wind twenty feet as he sowed it on a wheat field." We read the article at time it appeared and "smiled" at it as one of the vagaries that are permitted to get into print now and then, even in the best regulated of papers. The last clause quoted is enough to condemn the practice, as much of the value of the droppings had most certainly evaporated in that "drying," and the ammonia had passed off into the air to poison it. We won't waste space upon the article, but we do want to quote some of Mr. Bowie's letter. He writes: "Such a system of manipulating the poultry droppings may be admissible in the more Northern States, but I am very sure that even here in Eastern North Carolina Mr. Chapman would not tolerate it two consecutive weeks. Does Mr C. mean to say that the droppings, as emptied from his boxes, with buckwheat hulls, etc., were sufficiently pulverized to sow right onto the land? Experience tells me they could not have been. Suppose the filthy mass in those boxes not stirred up for even two days—as Mr. C. says must be done—one can imagine the state of matters. Verily the antagonistic 'advice' one gets from practical poultrymen these days is astonishing! Some six years ago I commenced keeping pure bred poultry in conjunction with general farming, and, thanks to the aid of your writings, I have been successful. Common sense and close observation tells me that the droppings board is the thing in the Southern poultry house. * * There is no one class in the United States, I firmly believe, that can more easily augment their income than the general farmer, and that by systematic poultry keeping. I write from experience." Thanks for the endorsement of the P. F. Poultry Column, thanks for the endorsement of thoroughbred poultry, and greatest thanks for the strong endorsement of systematic poultry keeping for the general farmer. You are certainly right in emphasizing the splendid opportunity there is for farmers to increase their cash income by poultry keeping, and it is wonderfully strange (or seems so to me), that farmers so persistently ignore this opportunity. There is no product of the farm more popular in the market than eggs and dressed poultry; they command instant sale, for cash, all the year around; they are easy to transport to market; in short, every advantage that we can reasonably ask for is found in poultry keeping. Why do not more P. F. readers "easily augment their incomes" by keeping better poultry and more of it? The demand for poultry products is constantly and steadily increasing, and increasing more rapidly than the supply; and a surprising thing is that in New England, the centre of greatest poultry activity, there is the greatest demand for poultry products. The one State of Massachusetts buys ten million dollars' worth of poultry products every year, from outside the State. Why will not P. F. readers increase their poultry product, help supply this great demand and pocket a share of those dollars? We all want to increase our incomes; here is the branch of farm work by which we can most easily do it!

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Poultry Queries.

White Chickens and Hawks.—Wire Fencing. — Eugene Oaks, Cordz, Mo., writes: "I am going to establish a poultry ranch and am intending to handle one of the varieties of Wyandottes. Would like to handle the Whites, but think that they would be more in danger of hawks, as I live on a farm. What material difference is there between the White and Silver Laced Wyandottes? Also, in building my lots I have used one 12-inch, one 10-inch and one 4-inch board at bottom of fence, as lumber is very cheap here. This makes the fence, including spaces between boards, 33 inches. Wouldn't it be cheaper for me to use single strands of No. 19 wire to make it high enough, say a strand every six inches, than to buy poultry netting?" We very much doubt if a white chicken is any better target for a hawk than a parti-colored one. A hawk's eyes are keen and he can see any color chicken a long distance off, and as the Silver Laced Wyandotte chicks are black and white they would be practically as accessible to hawks as the canary-colored White Wyandotte chicks. If the hawks bother you much spend a few hours lying in wait for them, in concealment, with a good gun in your hand. When you have shot two or three you will find they think your neighbors' chickens better than yours. You have made a mistake in putting your boards two or three inches apart; they should be close together to keep cocks from fighting through the cracks and to serve as a windbreak in windy weather. Your plan of single strands of wire six inches apart may work, but how can you keep the wire six inches apart between posts? One strand will sag and leave a foot wide space, perhaps. As the fowls cannot see the wire the chances are they would fly against it and be thrown back, especially if you put the first four strands above the boards only three inches apart. Wire netting is so (comparatively) inexpensive and lasts so well we wouldn't take chances on makeshift substitutes; with good wire netting you've got a sure thing. There's not one particle of uncertainty about it.

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All kinds of coughs need Jayne's Expectorant.

The Right Thing.

A New Catarrh Cure, which is Rapidly Coming to the Front.

For several years, Eucalyptol Guaiacol and Hydrastin have been recognized as standard remedies for catarrhal troubles, but they have always been given separately and only very recently an

ingenious chemist succeeded in combining them, together with other antiseptics into a pleasant, effective tablet.

Druggists sell the remedy under the name of Stuart's Catarrh Tablets and it has met with remarkable success in the cure of nasal catarrh, bronchial and throat catarrh and in catarrh of the stomach.

Mr. F. N. Benton, whose address is care of Clark House, Troy, N. Y., says: "When I run up against anything that is good I like to tell people of it. I have been troubled with catarrh more or less for some time. Last winter more than ever. Tried several so-called cures, but did not get any benefit from them. About six weeks ago I bought a 50-cent box of Stuart's Catarrh Tablets and am glad to say that they have done wonders for me and I do not hesitate to let all my friends know that Stuart's Catarrh tablets are the right thing."

Mr. Geo. J. Casanova of Hotel Griffon; West 9th street, New York City, writes: "I have commenced using Stuart's Catarrh Tablets and already they have given me better results than any catarrh cure I have ever tried."

A leading physician of Pittsburg advises the use of Stuart's Catarrh Tablets in preference to any other treatment for catarrh of the head, throat or stomach.

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All druggists sell Stuart's Catarrh Tablets at 50 cents for full size package and they are probably the safest and most reliable cure for any form of Catarrh.

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PROF. W. F. MASSEY, Editor.

Philadelphia, January 3, 1903

Horticultural Education.

We have received a cut showing the new building for the Horticultural Department at the Missouri College of Agriculture. It seems to be an entirely new departure from the conventional college building, and was evidently designed by one who had a just appreciation of the fitness of things, for the building has a rural, cottage-like aspect that fully harmonizes with its purpose. In fact, it would seem that anyone coming upon it without knowing to what department of the work it belonged, would at once conclude that it was the Horticultural Building, for it looks like just such a building as a horticulturist would design for such a purpose. While large and handsome architecturally, it is at the same time countryfied and homelike as contrasted with academic buildings generally. We wish that every College of Agriculture had such a building as the home of its horticultural department. And yet we know of one State College of Agriculture, with over a hundred students in the agricultural course, where horticulture is entirely ignored, while horticulture is one of the leading interests in the State, and probably the one that brings the most money into it from any branch of soil culture. And the college farm has no orchards, no small fruits and hardly anything in the shape of a vegetable garden. Teaching agriculture without anything in regard to horticulture is like giving animals an unbalanced ration, and the building up of the horticultural department of a College of Agriculture can hardly fail to aid the development of the general agricultural interests. Missouri is looking after her growing fruit interests. Some other States we could name have greater undeveloped fruit and garden interests, and are doing nothing for them. A young man goes to an Agricultural College from a section where market gardening or fruit growing is the leading interest, and he naturally wants to have something in regard to these to be included in his course of study, and is surprised when he reaches the college to find that there is no horticulture taught. But this is the case in one or more of the Colleges of Agriculture.

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Apples in Grass.

For thirty years or more we have been insisting that after one has developed an apple orchard to a bearing size the best thing that can be done with it is to keep it in grass. Not for the grass or for any pasturago, but for the sake of the trees. Cut the grass several times during the Summer and leave it on the ground as a mulch to the trees. We have never said that this is any cheaper than cultivation, but it is far better for the trees. We are glad, therefore, to note that at the Ohio State Institute it was shown by the experience of one leading grower that orchards properly kept in sod are far better than the average cultivated orchard. But as soon as one talks about orchards in sod someone refers at once to some neglected orchard they have known where the trees stood in sod and all the grass was either cut for hay or pastured by stock, and brings up that as an example of orchards in grass. The orchard in Ohio which one speaker said was the best in the State, was planted in sod and never worked at all. We once planted an apple orchard on a steep, rocky hill where the fast rocks were so plenty that plowing could not be done. The timber had been cut off and the soil was fertile and soon sodded over with grass. That orchard came into bearing early and produced the finest fruit in the neighborhood. It is generally conceded that the short-lived peach tree should be cultivated clean during its entire life, and yet the longest lived and most productive peach tree we ever knew stood in a blue grass sod on a lawn, and the fruit was remarkable for beauty and freedom from curculio. It stood in one corner of a small orchard that was regularly cultivated. But the lawn was extended and took in this tree. That tree was producing the finest peaches for years after all the rest in the cultivated ground had perished. If the soil is kept fertile and the grass is used for the benefit of the trees alone we had far rather have the orchard in sod than to have it cultivated, even if it cost less to do.

* * *

Experiment Stations and Model Farms.

The Editor of the Southern Ruralist has been visiting the Experiment Stations in Georgia and Florida, and seems disposed to criticise them because they did not exhibit products of the farm at the State Fairs of Georgia and Florida. The editor thinks that the Stations would be improved if the salaries of the Station officers depended to some extent on the sales of farm produce. Our friend mistakes the purpose of an Experiment Station. A Station and a model farm are two entirely distinct things. It might be desirable as an object lesson for some of the Stations to run part of their land as a model farm, but this is far from being the primary object of an Experiment Station. Grounds devoted to experimental purposes cannot in the nature of things be models for the imitation of the farmers around. The object of the Station is to ascertain facts, and this is often as well accomplished by a total failure in a crop as by a success. A Station may be located for instance in a section of the State poorly adapted to all fruits that may be grown with success in some other part of the State. The Station, however, plants all these fruits and endeavors to learn if there is any reason for the failure of certain fruits in the section that can be overcome. It may find after years of cultivation that certain fruits cannot be grown there because of climatic conditions that cannot be overcome. Our friend then would wonder that the Station should not exhibit fruits of that kind when they are exhibited from other sections of the State more favorably situated as to climate and soil. But the failure at the Station has simply determined a fact, that the climatic conditions cannot be overcome there and that growers in that particular soil and climate should not waste time and money in the effort to grow things not suited to their conditions. There is, it is true, a great difficulty in outdoor investigations in a single part of any State, for no Experiment Station can be located so that it will represent in its soil and climatic conditions every part of a large State. The Station in Rhode Island, for instance, would fairly represent the whole State, but a single Station in Pennsylvania cannot be representative in its operations with crops in the open ground of all the varied conditions of soil and climate in so large a State. Hence the work in the open ground experiments at any Station are mainly for the purpose of demonstrating general principles, and not for the production of crops for the market. If the salaries of the Station officers were made dependent on the sales of produce from the farm and garden it would simply change a place intended for investigation into a farm or market garden. It might be a success as a farm or market garden, and a good object lesson to the neighboring farmers and gardeners, but it would not be doing what it is intended to do, to investigate. Nevertheless there is a good deal of common sense in what our friend says. There is room in many Stations for some of this model farm and garden work, and while not leaving the investigation work to suffer, there might be in nearly every Station object lessons in economical and profitable farming and gardening that would be of vast use to the farmers of the State visiting the place. Too little attention has been given to this phase of the work, and in no other way could the attention of farmers be better directed to improved methods than to have them illustrated before them. Without leaving the other undone, this could be done in the majority of the Stations.

* * *

Making Institutes More Useful.

The Board of Agriculture of Missouri has made a new move to improve the interest and usefulness of the Farmers' Institutes in that State. They propose to take along with the Institute lecturers an exhibition and demonstration car. When the meetings are in stock section they will take representatives of improved breeds of cattle from the College herd and will hold a stock judging school. Where the dairy is the more important industry the car will be equipped with dairy apparatus and will be a travelling dairy school. In the horticultural sections the car will have an outfit of spraying apparatus, fruits and trees, so as to give practical lessons on the prevention of diseases and insect pests, the pruning and planting of trees, etc. Some seats will be in the car so that at times a short stop can be made and a meeting held in the car. In the places where a full meeting is to be held the car will be unloaded and the material taken to the place of meeting. This is certainly a move in the right direction. Object lessons are far more useful than lectures, and the average farmer is much better impressed by what he sees than by what he hears and soon forgets. He will be interested in the exhibition of these things that particularly concern his specialty, and will not forget what he sees and handles, while the spoken lecture often leaves no permanent impression. The school on wheels is a good idea and we would like to see it carried out more fully. One of the most useful things we have noticed was the plan adopted several years ago by one of the trunk lines of railroad running South. They had a whole train containing steam rock crushers and rollers for illustrating road making, road scrapers for dirt roads, a canning outfit with an expert canner to show how to put up fruit and vegetables, plows, cultivators and other things, and a corps of lecturers in attendance. Stops were advertised weeks ahead and the train was always met by a crowd. One car was a complete dairy school, and in another an attempt was made to show how to grow ornamental plants in window boxes, and the whole outside of the car was decorated with these filled with plants. The writer of this lectured at a number of these meetings, and there was a greater crowd out than we ever could get at a regular State Institute. The traveling school train should be the next move in the direction of Institute work.

The Cream of the Bulletins.

United States Department of Agriculture. Office of Experiment Stations. Circular 49. Secondary Courses in Agriculture. A. C. True. From the Seventh Report of the Committee on Methods of Teaching Agriculture.

This Committee is constituted by the Association of American Agricultural Colleges and Experiment Stations for the purpose of investigating methods of education in agriculture and reporting suggestions in regard thereto. The present pamphlet is a bulletin from the Office of Experiment Stations, embodying the suggestions of this Committee in regard to preparatory study in the high schools for admisssion into the agricultural colleges. The suggestions are of particular value at this time, when the experiment is being tried in Alabama, Wisconsin and California to establish separate agricultural high schools, which will offer the equivalent to the manual training or technical high schools, which are already established in all the principal cities in the land. Such schools being for all the people of the State, and preparatory to the real work of the colleges, should be a part of the public school system of the State, so that students from the primary schools can go to them from their completing the lower courses. The high schools, as at present established in the cities and towns of the country, have uniformly neglected the studies that are essential to the beginning of a course in agriculture, and have thrown this preparatory work on the college and prevented their doing real college work during at least the first year of their course. Since successful agriculture is essential to the prosperity and well being of urban as well as rural communities, there should be co-operation between country districts, villages, cities and the States, to provide the means for the maintenance of agricultural courses in high schools. In most of the high schools already existing, this need could be supplied by employment of a competent teacher, and the agricultural course may be offered without any radical or violent reorganization of the existing programmes of such schools. In general the average high school course of study assumes that the student has had a number of years, generally eight, in a primary school, where he has learned the elementary English branches, geography, arithmetic, etc. All that is needed in the high school is to devote more time to the natural sciences and less to languages. The agricultural instruction should embrace general principles in regard to climate, soils, fertilizers, plant life and its varieties, culture, harvesting, preservation and uses and the enemies of farm crops, the principles of breeding animals, the methods of modern dairying, construction of farm buildings, surveying, water supply in the country, irrigation and drainage and the history of agriculture. A series of courses of study are suggested covering four years. We think this would defeat the whole plan and compel the high school to do what the colleges should do. The high school that cannot prepare the student in agriculture in one or two years to take up serious college work will be a failure in the effort to prepare them. In these days young men cannot spend four years in preparing for another four year course, and the suggestions of the Committee seem to offer courses that would require each high school to be fully equipped for agricultural training. The real use for such schools it would seem will be to put the preparatory work in agriculture on the same plane as the preparatory work for college in other lines. The student who has passed through the primary schools and come to a high school should not need a four-year course to prepare him for college in any line of study. The schedules of the Committee look like taking the work of the colleges and putting it into secondary schools instead of making the secondary schools merely preparatory to the thorough completion of a college course where full opportunity will be given for practical training, which can never be done in the secondary schools. If the study of agriculture is to stop with the high school perhaps the four-year course would be needed, but it seems to us this would make the work necessarily superficial from lack of the facilities for practical work. The great value of a college training comes from the handling of things, the laboratory work whether in the chemical and botanical laboratories or the farm laboratories in barn, dairy and field, and any attempt to make agricultural education merely book study will be certain to fail. Let us have the preparatory work in agriculture, but let it stop at the preparation, and let the college complete the work it is designed to do. Such a course in the high schools as the committee suggest would finally empty the halls of the colleges and send a lot of theoretical men to certain failure in practical farming. We do not need any such high schools while we do need preparatory work in the elementary branches before the student comes to the college.

MUTILATED PAGE

Our Business Corner

THE FARMER CO.,
S. E. Cor. Market & 18th Sts., Philadelphia.
HENRY HARRIS, Business Manager.
Special Advertising Representative
S. E. Leith, New York.

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Cut Off our Mailing List and we want them back.

Election Contest.

The official figures of the total vote cast for governor in New York, Pennsylvania and Michigan last November are:

New York	1,389,799
Pennsylvania	1,094,714
Michigan	402,226
	2,886,739

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COMMERCIAL

Philadelphia, Dec. 27, 1902.

WHEAT.—

The market ruled steady under moderate offerings, but exporters had few orders and demand from millers was light. Bradstreet's estimated a decrease in the world's visible supply of 933,000 bushels.

No. 2, red	73¼ @	73½
No. 2, Penna. and Del.	77¼ @	77½

CORN.—

No. 2, yellow	55	

OATS.—

Oats were scarce and a shade firmer, with a fair inquiry.

No. 2, white clipped	38½	

BUTTER.—

Best prints	30	
Firsts, creamery	27 @	28
Seconds, creamery	23 @	24
Ladle packed	19 @	20

CHEESE.—

Full cream, choice, small	13¼ @	13¾
Full cream, fair to good	12¾ @	13¼
Part skims	9 @	11

LIVE POULTRY.—

Fowls, per lb.	10½ @	11½
Spring chickens, per lb.	10 @	11
Ducks, per lb.	12 @	13
Geese, per lb.	11 @	12
Turkeys, per lb.	12 @	13

DRESSED POULTRY.—

Receipts of all descriptions were moderate and the market ruled firm, with a good demand, which cleaned up the offerings of desirable stock.

Fowls, per lb.	13 @	13½
Chickens, per lb.	13 @	15
Turkeys, per lb.	17 @	18
Ducks, per lb.	13 @	15

EGGS.—

Nearby fresh	26 @	27
Western, choice	27½	

FRESH FRUITS.—

Apples, per bbl.	1.50 @	3.50
Grapes, per basket	11 @	18
Cranberries, Jer., per crate	2.50 @	2.75
Cranberries, Cape Cod, bbl.	9.00 @	12.00
Oranges, Jamaica, bbl.	4.50 @	5.00
Oranges, Fla., per box	3.00 @	4.00

VEGETABLES.—

The market for white and sweet potatoes was quiet, but offerings were moderate and prices ruled steady. Onions were plentiful and dull at former rates. Demand for cabbage was light and prices lower.

White potatoes, Pa., per bu.	65 @	68
White potatoes, West., bu.	55 @	63
Sweet potatoes, Jer., bas.	25 @	55
Cabbage, per ton	8.00 @	10.00
Onions, per bbl.	1.75 @	2.00

BEANS AND PEAS.—

Marrows, H. P., per bu.	1.75 @	2.55
Scotch peas, per bu.	1.75	

HAY AND STRAW.—

Timothy, choice large bales	17.50 @	18.00
Straw, straight rye	14.50 @	16.50
Straw, tangled	11.50 @	12.00
Wheat	10.50 @	12.00
Oat	9.00 @	10.50

FEED.—

Bran, bulk, Winter, per ton	18.00 @	18.50
Bran, sacked, Spring	18.00 @	18.50

COTTON.—

Middling upland	8 7-10	

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle about steady.

Extra steers	5¾ @	6
Good steers	5½ @	5¾
Medium steers	4¼ @	4½
Common steers	3¼ @	4

CALVES.—

Veal calves steady on best grades.

Extra calves	8¾ @	9¼
Fair to good	7 @	8½
Poor and common	5 @	6½
Grassers	3½ @	5

HOGS.—

Hogs active.

Fat hogs, Pa., Del. & Md.	6 @	8½
Fat hogs, Western	8½ @	9

SHEEP.—

Sheep and lambs about steady.

Sheep, extra wethers	4 @	4½
Sheep, good	3½ @	3¾
Sheep, medium	2½ @	3¼
Sheep, common	2 @	2¼
Lambs	4 @	6

* * *

New York, Dec. 27, 1902.

WHEAT.—

No. 2, red	79⅛	
No. 1, Northern Duluth	76⅜	

CORN.—

No. 2	73¼ @	74
No. 2, white and yellow	61½	

OATS.—

No. 2, white	38½ @	38¾

HAY.—

Prime, large bales, 100 lbs.	97½ @	1.00

BUTTER.—

Creamery, extra	30	
Creamery, firsts	27½ @	29
Creamery, seconds	23½ @	25
State dairy, tubs, fancy	27 @	28

CHEESE.—

Full cream, small	13½	
Full cream, choice	13	
Light skims, small, choice	11½ @	11¾
Light skims, large, choice	11¼ @	11½

LIVE POULTRY.—

Spring chickens, per lb.	12	
Ducks, per pair	80 @	1.00
Geese, per pair	1.50 @	1.62
Fowls, good to prime, per lb.	12½	
Turkeys, per lb.	14 @	15

DRESSED POULTRY.—

Spring turkeys, per lb.	17 @	20
Spring chickens, per lb.	22 @	24
Spring geese, per lb.	13 @	15
Fowls, good to prime, per lb.	11 @	13
Squabs, poor to prime, doz.	1.75 @	2.75

EGGS.—

State and nearby	33 @	35
Western	27 @	30

GREEN FRUITS.—

Apples, per bbl.	1.50 @	3.50
Cranberries, per bbl.	10.00 @	11.50
Cranberries, per crate	2.50 @	2.75
Grapes, per case	1.00 @	1.50
Grapes, per bas.	10 @	18
Oranges, Florida, per box	1.50 @	3.50

POTATOES AND VEGETABLES.—

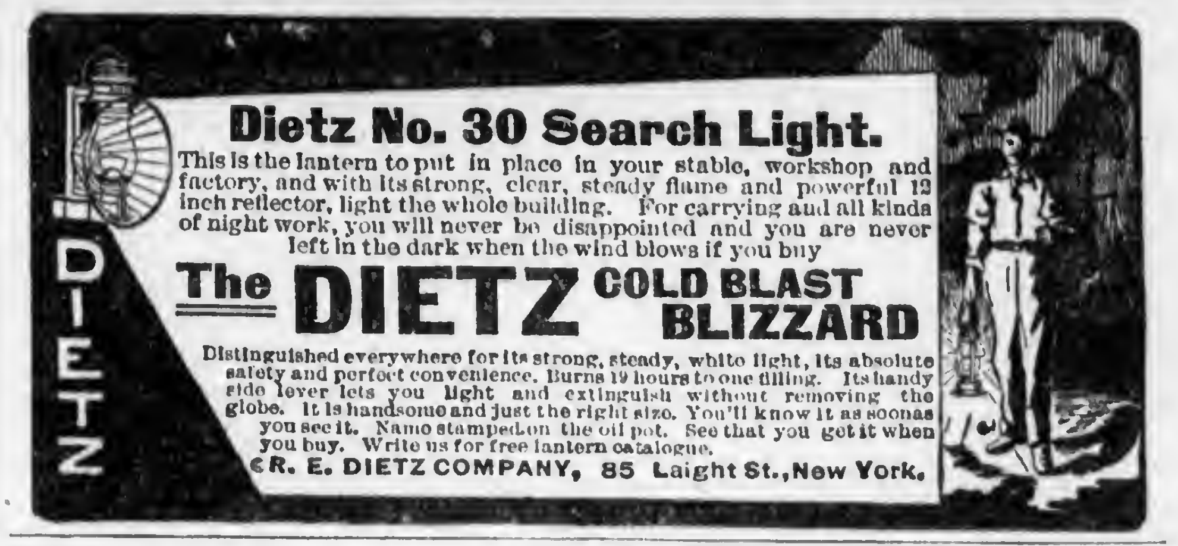
Potatoes, Jer., per bbl.	1.75 @	3.00
Penna. & Western, 180 lbs.	1.50 @	2.00
Sweet potatoes, per bbl.	2.25 @	4.00
Tomatoes, Fla., per carrier	1.00 @	3.50
Celery, Western, doz. bun.	5 @	50
Onions, per bbl.	1.50 @	6.00
Cauliflowers, per bbl.	1.50 @	5.50
Turnips, per bbl.	60 @	1.25
Spinach, per bbl.	75 @	1.00

* * *

WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.	
XX and above	29@31
X	26@28
Medium	28@29
Quarter blood	28@30
Common	25@26
UNWASHED (light and bright.)	
Fine	19@21
Medium	21@22
Quarter blood	21@22
Coarse	18@20
UNWASHED (dark colored.)	
Fine	15@16
Fine medium	16@18
Medium and quarter	18@19
Coarse	16@18
COMBING AND DELAINE FLEECES.	
Washed fine Delaine	31@33
Washed medium	29@31
Washed low	29@31
Washed coarse	26@27
Unwashed medium	22@24
Unwashed quarter blood	22@24



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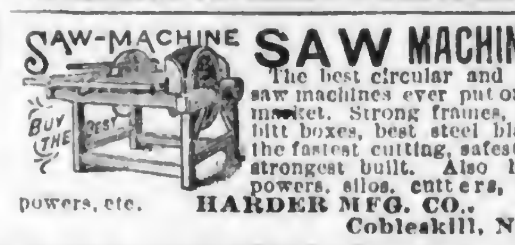

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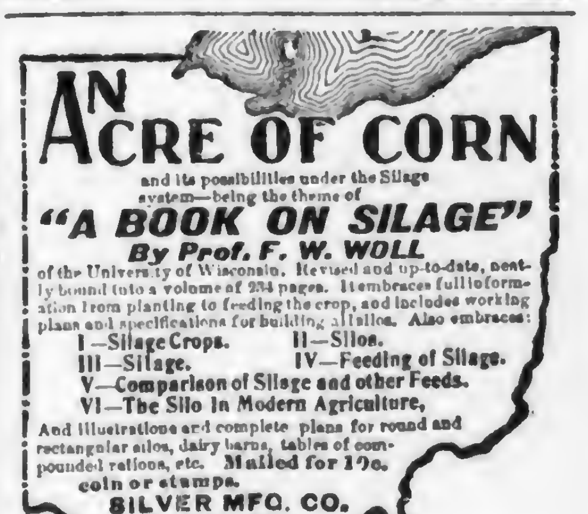

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The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Mother's Presence.

DAN'S WIFE.

The boys came romping in,
  With noise enough to smother
The sound of laughter loud,
  And shouting call, "Where's mother?"

Poor father, tired and worn,
  And fretted with the bother,
Comes in to rest awhile,
  And eager asks, "Where's mother?"

And mother, busy all the day
  At this, that and the other,
Sings, joyous that her presence cheers
  And glad that she is "Mother."

Max, Ind.

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Editorial Chat.

We give below the prize articles and our reasons for deciding upon them out of the many excellent ones submitted. The first one, "Child Culture," touches upon, as the writer, M. N. Edgerton, Petoskey, Michigan, says, a most important subject; one too deep and mysterious for our pen, but one which parents should study and ponder.

You, brother or sister, may today be walking 'neath a burden handed down from your great, great ancestor. It may be the "family temper," or the family "nose;" it may be an inborn propensity to get the better of your neighbor or a bent for some other immorality—love for strong drink, or lewd associates, or gaming. What think you, friends, of the almost daily newspaper accounts of ministers of the gospel, or fair, "exemplary" women going astray? Do you wag your head and sigh and wonder "what the world's a coming to?" Do you declare people are waxing worse and worse? Why no, they are not. Take the minister, for example. His father and his grandfather and his great-grandfather for generations back, may have had the same tendency, but they were strong and wise enough to resist yielding to temptation; but some weakness—possibly inherited from some other ancestor—let all this dammed up badness loose in this man, and so he goes down. Or that pure woman, with all her instincts, but one, normal and Godly—that one handed down—maybe skipping a generation or two—from some licentious ancestor, and it works her temporal, perhaps eternal, ruin. All this is not theorizing; hard facts lie underneath. We know a family where—let us see now, how is it? Every other generation in the daughters all give birth to foolish children. Something hereditary here.

Between heredity, which reaches back for hundreds of years, and pre-natal influences, it is a wonder that the world is as good as it is; and they make the birth of an immortal soul an event so monstrous, so fraught with possibilities for weal or woe that it is a wonder that old earth does not tremble. We read that the Czar of Russia is being urged by his advisors to put away his lovely wife and take another because she bears him no male heir to the throne. So, then, succession to an earthly throne is of such importance that the most grievous wrong under the sun is considered justifiable to secure it in the regular line. And yet what can be expected from such a child? And right in connection, though foreign to our subject, is the thought if people will do so much for an earthly throne, why are they so indifferent to that far more princely acquisition—a heavenly throne? We sing: "I am the child of a King," then go groveling along like hod carriers. "Look up and see the stars."

Again we commend the subject matter of the child culture article to our readers who are parents, coupled with a delicate hint to young people to "look up the pedigree" of those upon whom you are setting your affections before you commit yourself. Better a shower in Spring than a tempest in the Autumn. In other words, better sacrifice your personal feelings a little now than live to reap a bitter harvest. A lifelong friend of ours lived single until middle life, because the one love of his youth was in the direct line of insanity. Most men would have "taken the chance," only to repent bitterly by and by when home was in ruins and their own offspring in the fatal line.

And now just a few words on the other side. As a rule, we do not consider insanity hereditary, but it is a matter we are incompetent to discuss; it simply, in this case, illustrates our point. But there is something else we want to refer to. Friend, don't imagine that all your "meanness" is hereditary—anyway ours is not—and hereditary or no, it does not in the least lessen our responsibility. We are creatures of intellect; we know right from wrong; we can fight to the finish the evil tendencies within us, and our eternal destiny is within our own power. Your great-grandfather cannot drive you to perdition if you have not a mind to go there; neither can the Son of Man—we say it with all reverence—drive you to Heaven if you mind to go elsewhere. In spite of everything we are "free moral agents;" but it is none the less the right of every child to be virtuously forefathered.

* * * * * * * *

Our next prize winner is Mrs. J. C. Hodges, of Morristown, Tenn., who comes along with some pertinent "Advice to Husbands," which may do some gruff, overbearing lord of creation good, if he happens to apply it to himself. The trouble is, Jones will read it and say: "I guess I'll slyly hand this copy of the P. F. to Smith; that hits him." And Brown will wonder if Bailey will recognize his own picture, and they will all lay it down thanking the Lord they are not as other men are.

Of course, in truth, it won't hit the great majority, but the minority need attention occasionally. And then comes Mrs. Marion W. Currier, of Amesbury, Mass., with some excellent hints on Basketry, accompanied by illustrations. We are especially glad to get this article and hope for more on the subject.

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Prize Article.

Child Culture.

M. N. EDGERTON.

Much has been said and written upon the subject of child culture, but not so much that it has become exhausted, nor will it ever be. The subject is an important one; the study is interesting. At this time we wish to consider the subject from the standpoint of a parent only, and more particularly to dwell upon that influence which is hereditary.

It has been said that the training of a child begins with its grandparent, and there is much truth in the statement. It is true at least that character, in many instances, is determined quite largely by the laws of hereditary influence. But it is also true that, by love and kindness, by introducing ideal surroundings and making use of the elevating influences of a Christian home a child's nature may be greatly modified, if not entirely changed. This is because the divine in humanity is being built upon to the exclusion of the other element; and yet, knowing that this is so, must we not at the same time admit that, with all these good influences, and notwithstanding all the advancement that has been made, there yet remains an element, deep seated and abiding, an element in the nature come down to us from the ages of the past, and all because of the inexorable laws of hereditary influence? "Like father like son" may be a trite saying, but nevertheless a very truthful one. When God said: "The sins of the fathers shall be visited upon the children even to the third and fourth generation," reference was had to these same laws of hereditary influence. The child is nothing more nor less than a piece off the parents grafted in a new life, and partaking of the nature of both. Sometimes characteristics or qualities inherent in the father predominate; at other times those inherent in the mother, and again there is a blending of the two. We might say that the laws controlling this transmission of characteristic quality from parent to child are freakish! Certain it is that they are mysterious—mysterious in their workings, yet easily understood in part.

Recognizing these laws to be immutable, should we, as parents, be discouraged and make no effort to influence for good, the lives of those who shall call us father and mother? No; a thousand times no! For that very immutability or unchangableness in these laws gives us the opportunity to bequeath to our children desirable qualities of mind and soul. We may, because of these laws, influence for good the spiritual and moral life of our children and our children's children, but alas, too often our influence is in an opposite direction. As parents we should strive to be what we desire our children to be—a perfect "copy." Living with this purpose in view, striving to eradicate all that is evil or wrong in our natures, we live for a noble purpose and bequeath to our children the benefits of our striving.

Petoskey, Mich.

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Prize Article.

Advice to Husbands.

MRS. J. C. HODGES.

So much advice for wives and so little for husbands is written, that it would appear that the writers think husbands perfect and wives only faulty. I think it is time to review the conduct of our lords and see if marriage is a one-sided game. I have known husbands to claim the privilege of controlling all the money, even that earned by the wife and daughters; all the butter, chicken and egg money, and if the wife needed the smallest article she must go to him in humble supplication and explain just what she wanted, and why it was needed, and exactly how many cents it would take. But this same husband had money to buy all the whiskey and tobacco he wanted, and to join his associates in a treat or social game any time he chose, or to give for charity when it would make him look large. Now, does the wife, who has filled her place as well as the husband has filled his, feel that such treatment is right? And does not such a husband need advice? Then I have seen husbands come into the house with mud dropping from their shoes at every step and tramp through hall and rooms, disarranging tables, drawers and trunks, declaring all the time that someone had misplaced some of his belongings, and at last find the article sought where he had put it himself, creating confusion and discord throughout the household. When at last he has made his exit, the tired wife must take the broom and go over her morning task again. And sometimes baby has been fretful and mother has not slept much, but it is early morning now, and the little one is at last quiet, and mother could get a refreshing nap but for the tramping and slamming of doors. The references above are only a few that might be named, and they all seem of too little importance to mention; but it is the little things that make or mar the happiness of a family. It is not how many acres the father owns, or how large his bank account, for we find happiness as often in the homes of the poor as in the mansions of the wealthy. The matrimonial game is a game that two must play at fairly if it is to end successfully. If the wife must hide her displeasure sometimes and put on a smiling face, it is the duty of the husband to do likewise. If the husband has time for leisure and pleasure so should the wife. If the husband can afford good clothes and hire his rough work done, why should not the wife have the same advantages? When men and women realize more fully that the marriage relation is an equal partnership, and willing to act accordingly, there will be more happy families and fewer divorce suits in the courts.

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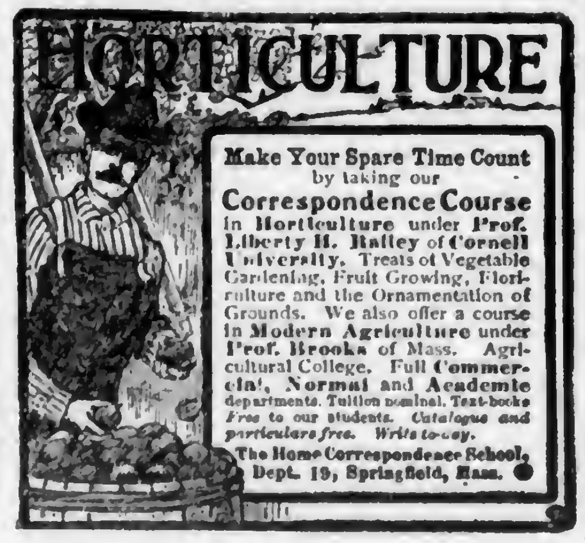
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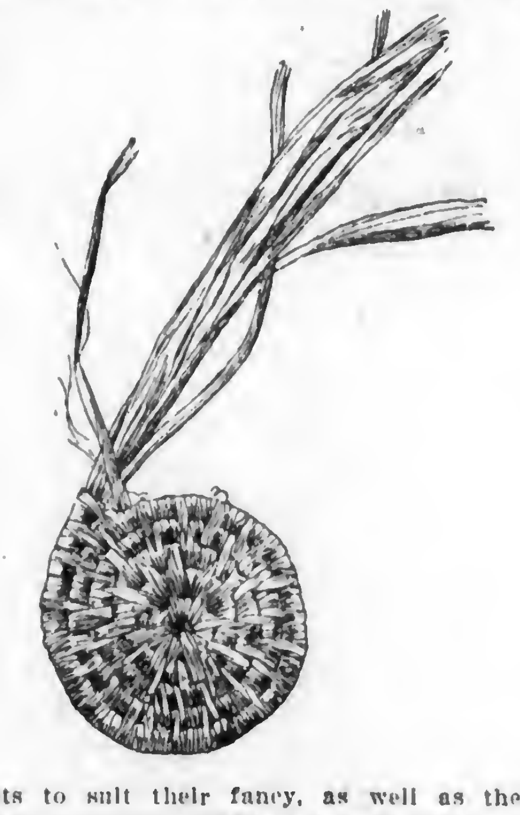
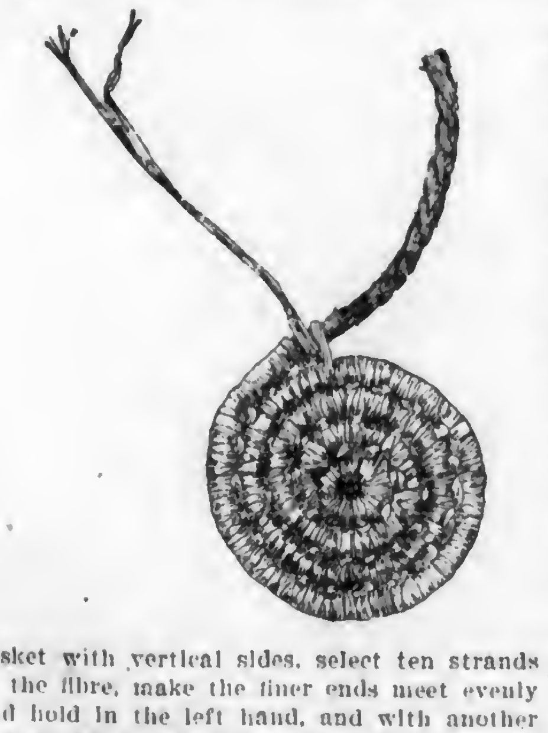
Prize Article.

Basketry.

MARION W. CURRIER.

In various way Indian basketry has come to the front to take its proper place among the great arts of the century, and teachers, classes and schools are making it possible to learn and imitate the intricate weaving and designs wrought out by the Indian women as expressions of their ideals in color and beauty, using the materials nature has furnished in abundance. There is a simple method of making baskets, as taught in the pedagogic school in Chicago, and in the kindergarten schools, that may be brought right into the home and made a pleasant occupation for children, invalids and women who delight in pretty articles of house adornment. It is light, easy, tends to cheerliness and stimulates ingenuity. This is raffia work, and those who take it up should be able, after a little experience, to design baskets to suit their fancy, as well as their ideas of utility. Raffia is a product of some species of palm, and is used by florists for tying plants to their supports and by gardeners in bunching vegetables and asparagus. It is sold by seedsmen and comes in bundles or twists, and the price averages about 25 cents per pound. It can be dyed, but is very pretty in its natural color, which is like that of a palm leaf fan. To make a small round basket with vertical sides, select ten strands of the fibre, make the finer ends meet evenly and hold in the left hand, and with another strand, dampened and threaded into a canvas or worsted needle, wind about eight times wind five times with single strand and draw down close to ring by putting needle through the ring and up over the strands. Wind again five times and catch to ring. Continue around the ten strands, leaving two inches projecting; now fold the ends back upon the ten strands, thus making a small ring; then round and when second row is reached catch to first row. Proceed in this way until you have a flat round piece four inches across. Now turn the coil upward and make one coil upon another two inches in height, then two or three coils inside toward centre and as many up straight, to make a small neck about which a ribbon may be tied. Finish off last row by sewing down closely. When adding strands to the ten strands, or the winding strand, wind under all loose ends and clip uneven ends. For an oval basket, wind filling strands three inches and turn and work over this the same as through ring.





Linen twine is much used to make the coil and winds more smoothly; and small reeds are also used. To write of reed and splint work would make this article too long. Those who are sufficiently interested can learn much from looking at a basket.

Books giving full directions can be purchased. Those who take up the work will surely be pleased with it.

Amesbury, Mass.

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In the Kitchen.

Mrs. Maggie Adams, Texas, writes: The husband may save his better half many steps and much hard work—too hard for women—by placing a ten or twenty gallon jar or keg in a convenient place in the kitchen, and fill it with water every morning before leaving for the day. Of course this applies to poor folks (like myself) who have not the other water conveniences. While I am not lazy, I see no need of standing to do work that one may as well sit down while performing, so I have a rocking chair in the kitchen. Laugh if you will, but I have as much right to sit in an arm rocking chair while paring potatoes as the men have to plow corn with a riding cultivator. I polish my stove once a week. It adds to its looks and it will last longer. I put two tablespoonfuls of kerosene in the clothes boiler with the clothes. It saves half the rubbing.

The kitchen garden, fenced so as to be fowl and rabbit proof, contains, besides other things, a variety of herbs that are "good" in the kitchen and for medicinal purposes, such as rhubarb, horehound, sage, peppers, etc. Try putting iron rust around the roots of your tomato plants and watch the result. Aprons and calicoes (or some light-weight cloth) armlets, reaching from wrist to elbow, permit one to wear a respectable looking dress while cooking, and not get it soiled. Have you ever tried wearing a little lace cap over the hair while in the kitchen?

* * * * * * * *

Mrs. Ida Nason, Presque Isle, Maine, writes: I wonder if I might venture in the H. C. with a few hints. I find so many useful helps in the P. F. that I feel I must tell you how I enjoy reading them. Do you all know that sunflowers growing around sink and cellar drains will keep away fevers? I read this when I was a small girl, and have grown them ever since and have never had any fevers in our family, even when our nearest neighbors on all sides were sick with typhoid. I have a dish of cold water near when using my egg beater, and rinse in it, and it is ready to be hung up to dry and the egg does not dry on.

In making braided rugs I sew nine through the braid instead of over and over seam. The rug wears longer and looks better. I have made some very pretty ones by sewing 25 rounds and then dividing the rug in eight parts and make eight loops and sew each loop together, and sew the remaining braid around the same as before. The result will be you will have a rug with eight scallops, and they are very pretty if made with stripes, or two or three colors may be braided together. Matches stuck in boxes of cabbage and tomato plants will keep the worms from killing the tender plants, and after the cabbage plants are set in the garden salt will kill the worms and help to head them.

A plain but very nice tea cake can be made by using one cup of sugar, one cup of sweet cream, two eggs, one teaspoonful soda, two teaspoonfuls cream tartar; flavor with lemon.

* * * * * * * *

Laura Golden, Ohio, sends a recipe for cheese cakes. Heat a quart of thick sour milk very slowly until the curd separates from the whey and drain carefully through a colander. Beat the curd very fine with a fork; add two well beaten eggs, half a cupful of sugar, a pinch of salt and the juice of a lemon, with half a grated nutmeg. Bake in a moderate oven in patty pans lined with a very short paste.

* * * * * * * *

Mrs. Andrew McNeil, Cain, Pa., writes: To clean frying pans and spiders that have become rough and scaly outside, make a good fire on bare spot of ground, and when you have a good bed of strong coals turn the pans and spiders down in them, heaping some coals on top also. Let them get red hot, then let the coals and utensils get cool before removing. When washed, if burned right, they will be as smooth as new. They may stick a little when first used, but if fryings are made hot before putting anything in there will be no trouble.

Do not be without a tin covered table. Even an old dough tray that has feet, or an old washing machine that has good legs, will do. Cover it with a broad board or an old door that has been made of tongued and grooved boards. Purchase a sheet of tin or zinc the size needed, which will not be very expensive, and a few short wire nails. Take a heavy flat iron and push from centre out to edge and bend tin down with hammer. Nail securely and you will have a table to be proud of. It is such a comfort to have something to set pies or anything hot from the oven on which will not have to be scrubbed and cleaned to remove black and grease. You will find very many uses for it.

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A Fine Kidney Remedy.

Mr. A. S. Hitchcock, East Hampton, Conn., (The Clothier) says if any sufferer from Kidney and Bladder Disease will write him he will direct them to the perfect home cure he used. He has nothing whatever to sell.

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Fencing.—A very good opportunity is now afforded our readers to purchase a standard stock fence at a greatly reduced price by W. H. Mason & Co., of Leesburg, Ohio., who are advertising in our columns. It is a fence equal to any on the market for general farm purposes, and the price 23c. per rod, should arrest the attention of all who make an effort to buy to their own best advantage. The firm carries a full line of wire fences and fence supplies. They will gladly mail their catalogue free to anyone writing them for it and mentioning the P. F.

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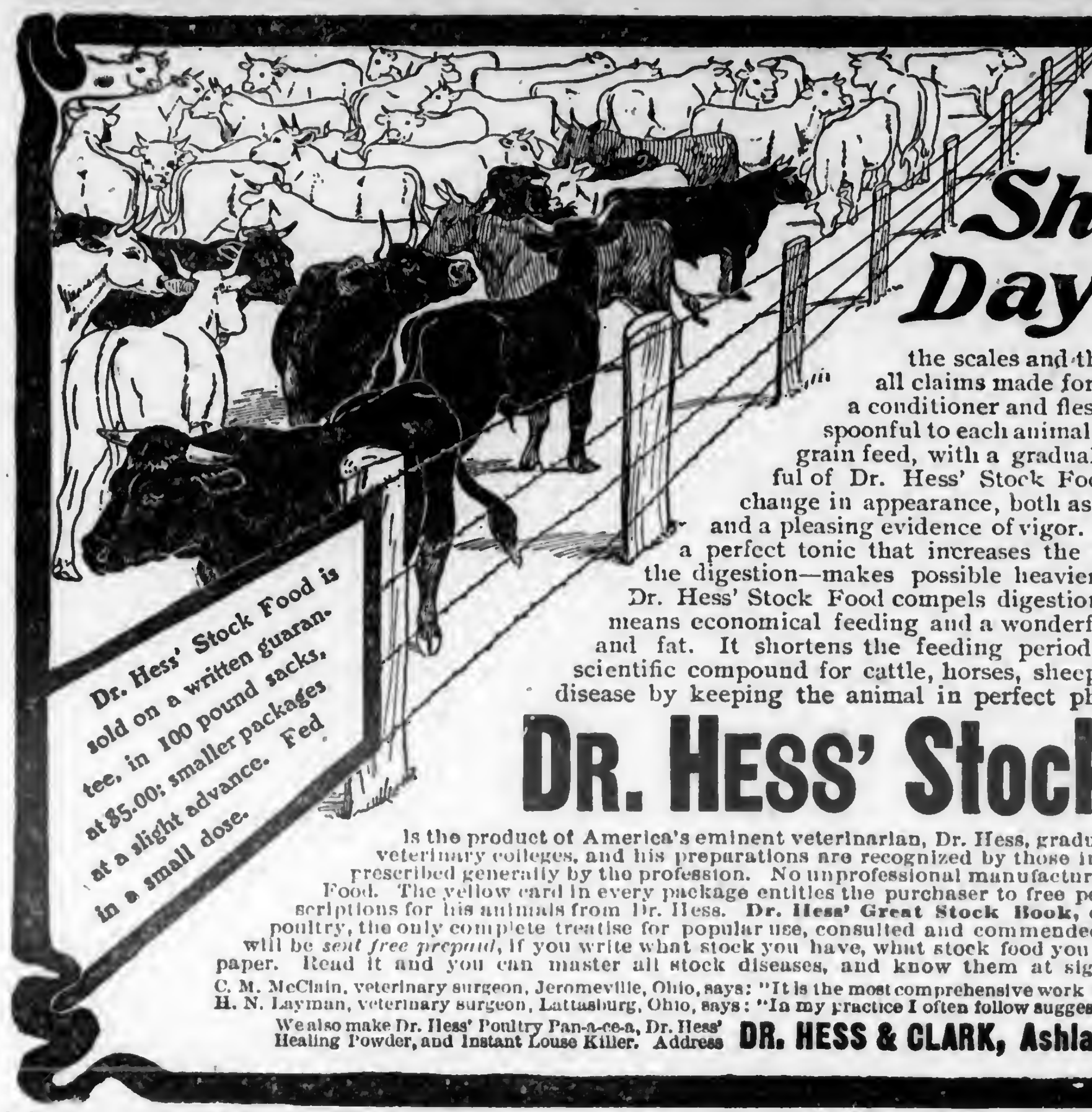

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Topic No. 555, Jan. 17.—*What is the Most Profitable Breed of Chickens for the General Farmer?*

Topic No. 556, Jan. 24. — *What Have You Found to be the Most Economical Roofing Material for Farm Buildings?*

Topic No. 557, Jan. 31.—*For Ladies Only.—Tell us How You Succeed With Window Plants in Winter, What You Grow and How You Treat Them.*

Topic No. 558, Feb. 7. — *What Sort of a Brooder do You Use for Incubator Chicks?*

Topic No. 559, Feb. 14.—*How Are Farmers' Institutes Managed in Your Section, and in What Way do You Think, They can be Improved and Made More Helpful to the Farmers?*

Topic No. 560, Feb. 21.—*Growing Tomatoes for the Canning Factory. What Variety Have You Found Best, and How do You Manage the Crop from Start to Finish?*

Topic No. 561, Feb. 28.—*Have You Adopted Any Systematic Method of Improving Your Seed Corn? If so, How and With What Success?*

Topic No. 562, March 7.—*Have You Raised Good Calves Without Milk? If so, How?*

Topic No. 563, March 14. — *What Varieties of Pears Have You Found Most Profitable, and How do You Cultivate and Pack for Market? Have Dwarf Trees Been Profitable?*

Topic No. 564, March 21.—*For the Ladies. How do You Make the Washing of Dishes, Pots and Pans Easier and not at the Expense of Time and Cleanliness?*

Topic No. 565, March 28.—*Have You Ever Tried Flat Culture with Cotton, and What is the Best Distance to Thin in the Rows and Between the Rows?*

Topic No. 553.—How Did You Build Your Ice House, and How Has it Succeeded?

C. L. Moss, Hammonton, N. J.—Having a long shed, I converted one end of it into an ice house, by going to the sawmill and getting slabs for partition and a cheap grade of lumber to put in the front with, and ceiling, sides and overhead, which I packed with sawdust. I dug down and lowered the floor nearly three feet below the surface, and in the centre I dug a well about six feet deep and filling up by setting small tiling on end for a drain, as the land was level. I could only put in a seep drain, which worked O. K. I put about ten tons of ice into this house, with about a foot thickness of sawdust all around top and bottom, and we used ice in the refrigerator every day from 1st of May to the latter part of September. Had plenty for ice cream, and furnished ice water for our berry pickers every day through berry season and sometimes having as high as eighteen to twenty pickers. The ice cakes should all be cut the same size and perfectly square and not allow to get into dirt or mud, and get the good clear ice free of bubbles.

P. E. Davis, Taunton, Mass.—My ice house is built on the north side of a grove of pines, on a northern slope. A cellar was dug ten feet deep and twelve feet square, stoned up and well drained. A wooden structure was erected from the wall four feet to plates with a good ventilator at top of roof. Studding was placed from bottom to roof so as to give space all around of one foot for sawdust. Brush is placed at the bottom to insure drainage, and ice packed so as to leave a space of six inches at sides for sawdust. Ice keeps well, but I consider it a mistake to build a cellar more than four feet below the surface of the ground. It does not keep as well three or four feet below surface. I believe it melts all Winter.

[You are right in thinking the pit too deep. An ice house entirely above ground is better. Then the brush at bottom doubtless drains but does not exclude the air from below. In such a pit we would cement the bottom to one drain, and would have a drain pipe from that with a trap in it to stand with water in the trap and exclude the air. This is the most important point in keeping ice.—ED.]

Eugene H. Crossett, South Acworth, N. H. —My ice house is a room in one end of a shed on the north side of the barn floor. It has a walk around the east and north, and a shed on the west. It goes two feet below the floor and the bottom is of cobble stones thrown in and straw on them, and sawdust on that to pack the ice on. The underpinning is banked up to the sills to keep the air out. It is 12 feet long, 9 feet wide and 9 high. It is double boarded on three sides, with the exception of three feet for a door; the other side is covered with building paper fastened on with 2x4, then another thickness of paper fastened with 2x4, then paper and double boarded. Had intended to make it so all around. Have a loose floor of double boards overhead, and take it up when I fill, as it makes it more convenient. Pack the ice in solid and put about eight inches of sawdust around the outside and a little more on top and all packed in solid. Can keep ice enough to run two refrigerators all Summer. It succeeds very well, but not quite equal to my anticipations. Before I finished this I used one corner of barn cellar where there was a bank wall on two sides and put the ice in just the same, and it kept as well as anywhere I ever kept it. For several years I used a lean-to on the east side of barn, only single boarded, and it kept very well. Ice can be kept very well in almost any building if it is well packed and covered. I have used straw, meadow hay and all kinds of sawdust for covering, but I like the sawdust that comes from a common board saw the best.

[Failure to keep the air out below, and lack of drainage is the difficulty with your house, as with Mr. Strain's.—ED.]

Thos. H. Strain, Wellsburg, W. Va.—Our ice house is of the makeshift order, having originally been a lumberman's shack, built of rough oak boards with cracks covered by strips and containing one room. This room I divided by a partition of boards, leaving a space 11 feet square, which, with one foot of sawdust on the bottom and sides, gave nine feet square for ice. We built in ice to the depth of five feet and covered with 18 inches of sawdust. I then sawed out the gable ends of the building and, save for an occasional tramping on top to keep firmed down, gave it no further attention. This ice, which I put up in partnership with a neighbor from a pond close by, kept our two families reasonably well supplied during the greater part of the Summer, but melted considerably from the bottom, which was caused, I think, by the building being built off the ground a couple of feet. The old oak sawdust we often noticed as being very hot, it seeming to absorb heat from the sun, which beat down on building.

[The trouble came from its not being air-tight at bottom. The drainage from an ice house should be only by a trapped drain, so that the trap stands full of water and excludes the air. All the rest of the bottom of the house should be made perfectly air-tight. Your loose sawdust on a floor not air-tight, and above the ground, let air in below, which will always melt the ice. Then it would be a great advantage in a sunny place to have a roof of boards or corn stalks elevated a foot above roof and open all around.—ED.]

L. Snow, Vienna, Ill.—First I selected a location, and this was a hillside. Our pond is formed by an old railroad bed on a hillside. Our ice house is built on the edge of this elevated bed, so that the water runs off without further trouble. As to construction, it is formed of two plank walls, having a 16-inch space between for sawdust. Within this, ice is placed so that a 4-inch space is left for sawdust. There is an opening in each gable end for ventilation. The ice is covered over with two and one-half feet of sawdust, and as ice is taken out, a corresponding amount of sawdust is removed. As a result there has been some loss by melting, though not in excess, and not more than often occurs in using very expensive houses.

SUMMARY.

The criticisms which the Editor has to make have been mainly made with each paper, but we wish to add here a few words in regard to the general principles involved in the preservation of ice. It has been many years since we have had any experience with an ice house, for ice houses are practically unknown where the Editor lives, all of our ice being manufactured all Summer through. But years ago, when we lived where it was practicable to collect natural ice in Winter we have had quite a deal of experience in the construction of the houses for keeping it. In the Virginia mountains we could generally succeed in getting ice about three inches thick, and sometimes more, and sometimes, when ice was not obtainable we have had ice all Summer from packing snow solidly in the houses. It was not as good as clear pond ice, but it answered the purpose very well. It is perfectly easy to make a house that will keep ice perfectly if the principles involved are observed. These principles are to have deadened walls and a perfectly tight floor with an air-tight drain, made so by a bend or trap in the drain pipe, which, standing full of the drainage water, will keep the air out from below. Then there should be a cover of sawdust on top and free ventilation above. Another thing is to keep the roof as cool as possible. Where it is exposed to full sun it is necessary to have an extra roof above the real roof about a foot and the space between the two roofs open all around. This extra roof can be best made by constructing a light frame of any rough material like stout hoop poles and then thatching this with straight rye straw or corn stalks. A roof of this sort is far better than one of boards, as it excludes the sun's rays better, and furnishes means for the escape of heat all over. Ventilation should be provided for by slatted windows in the gables. Properly constructed, an ice house above ground is better than one dug into the ground. Ours, in Virginia, was on a steep mountain side and in the ground only on one side, so that the door for filling was on a level with the roadway front. Then we had there the advantage that our pond was right on top of the cold hill alongside the houses. It was an artificial embankment and was filled by a pipe from a spring away off on the mountain side, so that the water was only about a foot deep all over, and being exposed to the northern blast from the Blue Ridge Mountains opposite, it had all the chance to freeze that came. The pond was emptied and kept clean all Summer, and the pure spring water placed in it made about as pure ice as could be had. It would have been an improvement had the pond been cemented all over and scrubbed out before the water was let in. Of course such an arrangement is a refinement that few farmers can have. But it is of the greatest importance to have the ice from pure water, for freezing does not kill disease germs in the ice. The great epidemic of typhoid fever at Plymouth, Pa., years ago, was caused by typhoid germs getting on the ice of the reservoir during the Winter and melting into the water supply. People living in the South are better guarded in this respect, for all of our ice is made from water that is previously distilled and perfectly pure. The day is not far distant when ice will be made in this way all over the country.

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SOLID GOLD CASE — WILL BEND AND DENT

SHORT CUTS.

BY PRACTICAL FARMER SUBS.

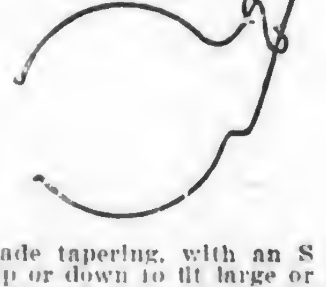
All other trades have resorted to "Short Cuts." To be successful farmers must resort to them, too. In this column we will publish all actual labor saving short cuts made by the farmer on the farm and the housewife in the home. Write and tell us of any labor saving tool you have made, of any method of management or manner of using implements to save time, labor and money, or increase their efficiency. Even the smallest things may be useful and valuable. Hints and helps in the household are always welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Write on postal cards and make articles short. All errors will be corrected by the editor. Address all communications under this head to T. Greiner, La Salle, N. Y.

To Stretch Wire Easily and fast without a patent stretcher, either barbed or smooth, fasten wire firmly to one end post, space it along other posts by driving staples part way in, but not tight. Drive your farm wagon so a hind wheel comes in line with other end post six or eight feet from it. Fasten tongue securely by driving stake firmly in ground close enough to fasten to end of tongue with a clevis. Now raise the hind wheel in line with fence by using two planks, a long one, to be used as a pry, and a short one for support. Fasten wire to one of the spokes, using the hub as a spool and the spokes as levers to turn with. I can stretch half a mile of wire at a time and wagon can be arranged for work in five minutes. It is sometimes necessary to drive a couple of stakes against the opposite wheel to keep it from sliding over. O. H. KELLOGG.
Parkville, Mich.

Use for Half Worn Overalls.—When husking corn where there are cockleburrs the tails of horses should be put into a sack to prevent scattering the burrs where there are none, and to preserve the beauty of the tail. Cut off the legs of old, half worn overalls, mend the worn parts, stitch across the lower end, hem the edge of the top to prevent tearing down. Make two holes a third of the distance around apart and whip the edges well with thread to prevent tearing out; insert a string in each, by which the sack is made fast to the crupper on each side after the sack has been slipped over the tail. The sack can be easily put on when necessary, and removed when not needed, and withal is very durable and quite economical.
Walker, Mo. ROSIE TULL.

Mending Harness.—We desired to sew some seams in our harness. Wax, thread and awl were at hand, but a clamp was needed to hold the leather while sewing, so as a substitute we used an old hand corn planter. The ends of the leather to be spliced were placed between the jaws of the planter and held there firmly by spreading handles apart and securing them there. This has been used various times and gave good satisfaction. E. E. HIGGINS.
Crow Summit, W. Va.

Device for Handling Baking Tins, etc.—This device is made of No. 6 coppered steel wire. The prongs want to be about 8 inches long and the handle about 7 inches, and is made tapering, with an S link on it to slide up or down to fit large or small tins. As it fits around under the edge of tin there is no chance to break the edges of pies or cakes, and enables one to put things in or out of any oven without burning the hands; and is also nice for removing basins from the stove. The wire cost only about two cents, and anyone can make one. M. DANIELS.
Chicago, Ill.



Neckyoke on Harness.—In answer to H. T. Newcomb, of Wisconsin, and others, in regard to using short neckyokes on harness, I would say that in this community they are a great advantage over the pole strap and neckyoke. A horse can hold back a greater amount with the short neckyoke and the breeching in this hilly country than with the pole strap and common neckyoke, for the reason that the entire weight of the horse can be braced against the load with greater ease and better effect than with the pole strap. No doubt the common neckyoke and pole strap are all right for a level country, but they certainly are not well adapted to the long hills which we have in this section.
Sprankle Mills, Pa. GLADE YEAGER.

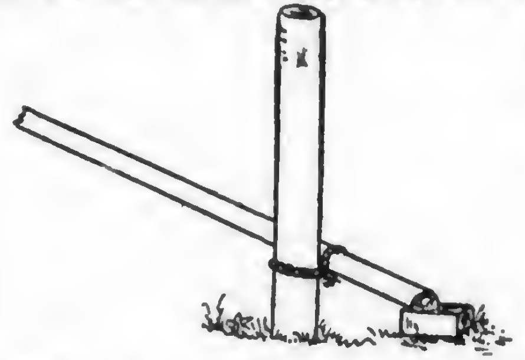
Stone Boat with Rack. — One of the most convenient ways of hauling corn stalks, oats, etc., for soiling purposes is with a stone boat rigged with flaring rack 3 or 4 feet deep. A few boards and a 2x4 scantling will make one in ten minutes. Every farmer has the stoneboat, or should have. We have used such a rig for years, and would not be without one. E. E. LAWRENCE.
Spafford, N. Y.

To Stretch Barbed Wire.—Take out the tail-board of your wagon, bore two holes through the sideboards, put a crowbar through the holes, a coil of wire on the crowbar and several coils in the wagon. Now drive to the corner you wish to start from and fasten the wire to the corner post. Have one man hold a shovel or spade on the coil to prevent the wire uncoiling too fast, while you drive on a hundred yards or so, keeping close to the posts. Then stop and fasten the wire to the wagon. Start up your team until the wire is as tight as you want it and put the brake on solid to keep the wire tight while you staple it. Then drive on another hundred yards or so. In this way two men and team can stretch three or four times as much wire with less work than can be done in any other way.
Long Valley, Cal. HERBERT F. SMART.

Good Dog Kennel.—Take a box about four feet square, put three or four rafters on, shingle it and fill it with straw or leaves and you have as good a dog kennel as can be found. It is cheap and quickly made.

To Hitch a Cow.—Everyone who hitches his cows in the stable at night, or uses a rope on them in any way, knows that after the rope has been on the cow's horns some time it is sometimes hard to get off. The easiest way is to take a strong rope, fasten a snap in one end and a ring far enough from the end to go around the cow's horns and snap. MABEL S. BABCOCK.
Goodlettsville, Tenn.

Pulling Out Old Posts.—Take a chain, slip it around the post; take a rail, put the chain around the rail; put a block under the rail, pull at the rail upward.
Alliance, Pa. F. J. MCALLISTER.



Several Uses of a Common Weed.—Poke berries are claimed by many to make splendid greens if cut early. They must be parboiled and cooked with a good piece of pork and mustard and cress may be mixed in. Excellent! Poke roots chopped up fine and fed to a cow or horse are good to improve digestion, bringing them into better condition.

Movable Pig Pen.—A neighbor has now a pig, or hog rather, in a movable pen which the hog can move or root about the barnyard, thereby giving himself a clean, dry spot as often as he wishes. It beats a great many hog pens I know of, that are hardly cleaned out once a month. It is simply a rectangular box 4 feet high and 4x6 feet on the ground. There are four upright posts, one in each corner, and light ½-inch oak boards are nailed on the sides with 3-inch spaces between the boards. The bottom boards are 2 inches from the ground, which gives piggy a chance to use his nose in transferring his quarters at pleasure. S. A. DYKE.
Waldo, W. Va.

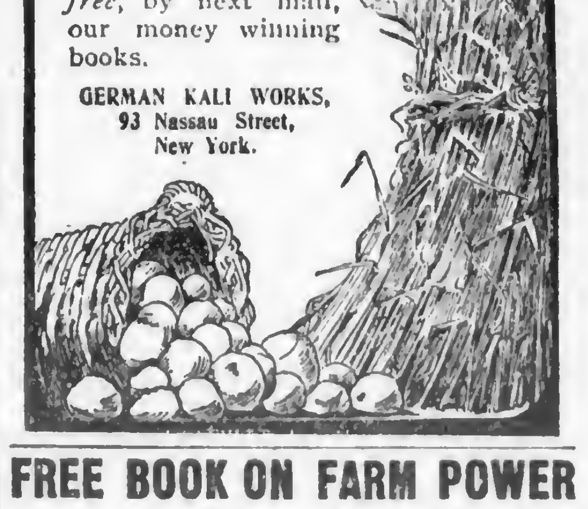
Sweet Smelling Pillows.—The brown spotted condition of pillow ticks is really grease and dirt that works through the slips. The covers look dark, yet there is no convenient way of cleaning them. Ticks made of unbleached muslin, put over the ticks proper, will save pillows a great deal. They can be removed and washed once in two or three months, thus insuring clean, sweet smelling pillows. The extra ticks used over a large feather bed answers the same purpose and is easily removed and washed, thus saving much labor. MRS. ADA H. PARKER.
Zelda, O.

Pulling Cabbages.—To pull my cabbage this Fall for storage, I hit upon a simple device which saved much time and labor. From the woods procure a forked stick about 1¼ to 1¾ inches thick, any sort of timber. Have the prongs about 2 feet long, the handle same length. Taper the handle to fit your hand. Shove the prongs under a head of cabbage and a lift on the handle will draw it. They lift easily and it can be done almost as fast as you walk. H. J. HORNER.
Horners, Va.

Blanching Celery.—Last Spring I tried the new celery culture, using Maule's Self Blanching variety, but found it did not blanch well, so dug trenches in smoke house and set the plants close in with all dirt and roots adhering, and poured water in trenches occasionally. I have now (in November) a bed of well blanched celery, and it is just as tender and nutty as it looks.
Danner, Tex. WM. W. BRANOM.

This Will Interest Many.

F. W. Parkhurst, the Boston publisher, says that if any one afflicted with rheumatism in any form, or neuralgia, will send their address to him, at 804-28 Winthrop Bldg., Boston, Mass., he will direct them to a perfect cure. He has nothing to sell or give; only tell you how he was cured after years of search for relief. Hundreds have tested it with success.



A Golden Rule of Agriculture:

Be good to your land and your crop will be good. Plenty of

Potash

in the fertilizer spells quality and quantity in the harvest. Write us and we will send you, *free*, by next mail, our money winning books.

GERMAN KALI WORKS,
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$21.95 FARMERS' HANDY WAGON 4-inch Tire Steel Wheels
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Strictly new, perfect, Semi-Hardened Steel Sheets, 2 feet wide, 6 feet long. The best Roofing, Siding or Ceiling you can use. No experience necessary to lay it. An ordinary hammer or hatchet the only tools you need. We furnish nails free and paint roofing two sides. Comes either flat, corrugated or "V" crimped. Delivered free of all charges to all points in the U. S., east of the Mississippi River and North of the Ohio River

AT $2.25 PER SQUARE

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SAMSON Galvanized Steel Wind Mills. Sold under a most positive guarantee. Write for handsome Illustrated Catalogue FREE. The Stover Mfg. Co., 562 River St., Freeport, Ill.

Free Rupture Cure

If ruptured write to Dr. W. S. Rice, 1501 Main St., Adams, N. Y., and he will send free a trial of his wonderful method. Whether skeptical or not get this free method and try the remarkable invention that cures without pain, danger, operation or detention from work. Write to-day. Don't wait.

An Advance in Price

Shares Now 20 Cents Advanced to 25 Cents on
January 12th.
WITH ANOTHER ADVANCE TO THIRTY CENTS
February 12.
This is an Opportunity of a Lifetime.

THE first stockholders in the Illinois-Colorado Oil, Gas & Coal Company have already made 400 per cent. on their investments and will make 400 per cent. more in the next six months. One Hundred Dollars will become $400. Why give your banker 100 per cent. on the earnings of your money and take 3 per cent. for yourself when you can invest and receive 400 per cent. on your money within six months from date? We cannot pay you dividends in 30 days, but will promise you dividends within six months. The Illinois-Colorado Oil, Gas & Coal Company owns free and clear of all encumbrance 1040 acres of the finest oil land in the State of Colorado, located in the great South Park. The Company has expended thousands of dollars for machinery, buildings, etc., and has under employment a full set of drillers and tool sharpeners, and they are working day and night to reach the oil sands. The drills are dropping in the shale formation which overlays the oil sandstone. Our officers and directors are all prominent and successful business men of Chicago, Illinois.

Until Jan. 12th.

$500 will buy 2500 shares.
$200 will buy 1000 shares.
$100 will buy 500 shares.
$40 will buy 200 shares.
$20 will buy 100 shares.
$10 will buy 50 shares.

If desired you can purchase shares on the installment plan. Twenty-five per cent. with your order, 25 per cent. in 30 days and the balance, 50 per cent., in 60 days. REMEMBER, price advances to 25 cents January 12th, with another advance to 30 cents February 12th.

Fortunes in Oil.

The question presented to the mind of every cautious investor is: "What returns may I expect from my investment?" We quote the following table to show:

$50 invested in Oil City Pet in 1900 realized $3,500.
$20 invested in Union Oil Company in 1900 realized $30,000.
$20 invested in New York Oil Company in 1900 realized $8,000.
$80 invested in Home Oil Company in 1900 realized $18,500.
$100 invested in San Joaquine in 1900 realized $3,200.
$500 invested in Hanford Oil Company in 1900 realized $18,300.

These are only a few companies. We can give you a list of a hundred more. What other legitimate investment can show a like return?

THE ILLINOIS-COLORADO OIL, GAS & COAL COMPANY'S STOCK IS FULLY PAID AND FOREVER NON-ASSESSABLE. When you buy and pay for your shares YOU CAN NEVER BE TO ANY FURTHER EXPENSE. Colorado produces a high grade illuminating oil which is becoming a scarce product in the United States. It is only a question of time when high grade illuminating oil stocks will command the attention of the world. Write for our prospectus at once. ALL ORDERS DATED ON OR BEFORE JANUARY 12th WILL RECEIVE SHARES AT THE 20-CENT RATE. AFTER THAT DATE THE PRICE WILL BE 25 CENTS. If you have not time to investigate before that date, send in your order and investigate afterward. IF THEN NOT SATISFIED WITH YOUR INVESTMENT WE WILL REFUND YOUR MONEY. Address:

W. P. GARRISON, President,
THE ILLINOIS-COLORADO OIL, GAS & COAL CO.,
1600- 79 Dearborn St. Chicago, Ill.

Mistakes, Failures and Successes.

In this department we publish the Mistakes, Failures and Successes of our subscribers. They are equaly instructive and necessary, pointing the way to success. Subscribers are cordially invited to send accounts of efforts they have made which resulted in failure, as well as those which proved successful. Give in a few words your experience of anything connected with farm or household work. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Only helpful communications of value to P. F. readers will be accepted. The head of the column will be considered the position of honor each week. Send all communications to Geo. T Pettit, Oneida, Kan.

How We Kill Pork.—We are most interested readers of the P. F., which we like very much. I saw in the paper a few weeks ago a note on the different ways of killing hogs for meat, so I will tell you how we do with our hogs. The night before we butcher I put all of my meat hogs on the scales and keep them there till morning. Then when my chores are done and my platform and scalding barrel are ready, I hitch to the hog rack, back it up to the chute which is at the door of the scale, and quietly drive my porkers into the rack. I now haul them around to the butchering place and back the wagon up so the rear end of rack is over the platform. Here I leave them till the water is in the barrel and all is ready, by which time they will probably all be lying down asleep. When ready I shoot them one at a time as I want them, using a rifle, stick and pull out on the platform to bleed, and they usually bleed quite well. In this way we avoid worrying the hogs and there is no lifting to get the dead ones on the platform to scald them. This plan may not be new to some of your readers, but I have never seen it described in the paper, and I tell you it is a good, handy way that any and every farmer can adopt if he has no better way.

Letts, Ia. C. Nolan.

[An excellent plan, friend Nolan. There is no more humane way to kill hogs than to have them penned up close, as you have them in the wagon, and then shoot them with a light rifle before sticking.—Ed.]

Some of Our Mistakes.—One of the greatest mistakes of the farmers of today is in being somewhat negligent in the destruction of foul and bitter weeds. Noxious and even poisonous weeds are to be seen along nearly all highways and in fields where they ripen their seeds and scatter them broadcast. The loss sustained by the farmers for a single year from this cause would count up into the millions. A little effort expended in destroying these weeds would greatly reduce the loss. Instead of buying turnip seed of a reliable seedsman, I waited till sowing time and then bought seed of my grocer. The result was I did not get a turnip from three acres. The seed did not germinate and was probably several years old. Farmers, please take notice: Do not follow my example; I will try to do better next time. Thos. P. Dougherty.

Tyrone, Pa.

Raising Mangels and Sugar Beets.—In former years I have made a partial failure in growing mangels and sugar beets, firstly by not having my ground plowed in the Fall, thus not being able to get them sown as early as they should have been. And secondly, in not having the ground sufficiently fertilized; when the plants came up they did not make a good, healthy growth and shove along ahead of the weeds. By sowing early on well fertilized ground I have this season had complete success with these crops.

Smithville, Can. F. H. Patterson.

Cucumber Pickles.—To make cucumber pickles that will keep a year and be always ready for use, wash the cucumbers clean, put in a stone jar, turn boiling water on them, let stand 10 or 12 hours, then take out and drain. Have cider vinegar ready in jar prepared thus: One gallon vinegar, one cup salt, one cup sugar, one cup horse radish root cleaned and cut up fine, three tablespoons ground mustard. Stir all in the vinegar cold.

Frosting.—The successful way of making milk frosting or maple without eggs is to not stir it after it is cooked until cold. To make milk frosting use one cup sugar and five tablespoonfuls sweet milk.

Arcade, N. Y. Mrs. L. D. Vanocker.

Short Corn.—My corn was the shortest last year that I have raised since I have been farming. No doubt the chief cause was the unfavorable season for growing corn, but I noticed that where there was vegetable matter in the soil the crop was good. Our land has, by continued cropping and washing, been depleted that no crop does well except in an exceptionally favorable season. We have a few farmers who are able to put the necessary amount of humus in the soil, but the great majority are not able. If there is a country in greater need of a radical change in farming than this, its condition is bad. In the last two years much soil has been carried away. In fact, more than for many years previous. S. B. Fickle.

Thom, Tenn.

Those Agents Again.—Having read in these columns of several methods by which the wily agent has taken advantage of the unsuspecting farmer, I am tempted to give my experience in buying fruit trees. It is about ten years since I gave my order for 40 apple trees to the agent of what was considered a reliable nursery. As the trees were for filling vacant places in an old orchard and were intended solely for home use, I selected them with the greatest care. Beginning with the E. June and selecting from two to four of each variety, I planned to have a succession throughout the Summer and Fall, with a lot of good keepers for Winter use. I was enthusiastic and hopeful and tended those trees most faithfully. Three years ago when the most forward began bearing there arose in my mind a horrible suspicion which has only been strengthened as the years rolled by. This year that suspicion has developed into the disheartening but positive knowledge that my 40 trees are one and all nothing more nor less than Ben Davis, a variety of which I thought so little that I had not included a single tree in my order. Several years of waiting means much to a person on the wrong side of fifty, and it is with considerable of the old interest and energy lacking that I take up my pen to write out a new list. Experience has made me wise enough, however, to make my selection from the catalogue of a firm which is tried and true.

New Berlin, Ill. T. A. S.

Watering the Leaves.—I wish to raise an objection to the letter of Electa Timerman in a recent issue, in regard to watering the leaves of her gloxinias. I sprinkle the leaves of mine thoroughly several times a week and sometimes every day. Have one bulb four years old and it carried more bloom this year than ever before. It was simply wonderful until a whirlwind came along and broke every branch loose. It is certain that water never injured any of mine. Some people claim that water must never touch the leaves of a Rex begonia. Now this is all bosh, too. I spray the leaves of mine nearly every morning as soon as the dust is cleaned up after sweeping, and I have five varieties. I always set them out of the sun till dried off and they do fine for me. I would like to know how folks keep their plants clean and healthy that allow water only at the roots. Now, friends, I do not mean to hurt the feelings of anyone; simply give my own experience to show that water will not hurt if properly used. I wash all my plants; some of them are even scrubbed to keep down scale, etc., on ferns, palms and orange trees. For this I use soft soap and if thoroughly done there will be no more scale on that plant for a year or two. Mabel Kreskey Knoer.

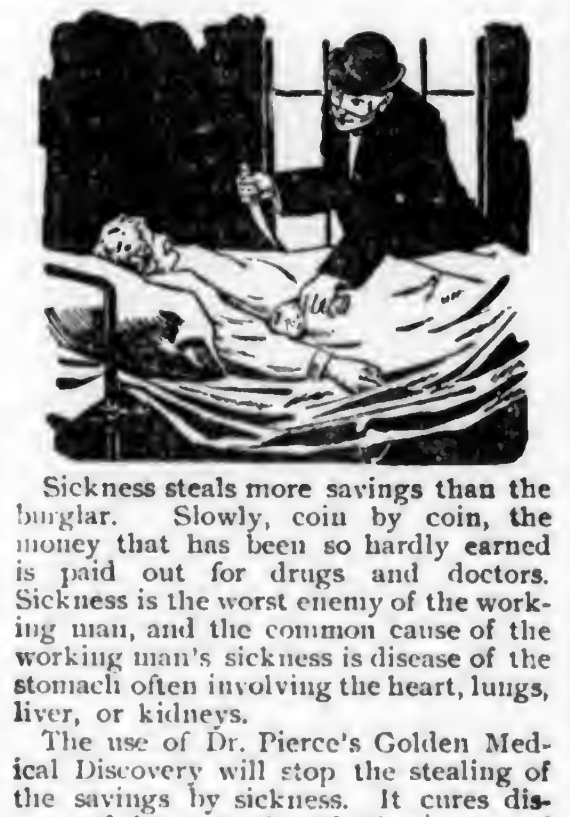
Huntland, Tenn.

To Cure Wound Made by Nail.—I will tell of the very best way I have ever found to doctor a sore made by stepping on a rusty nail or by a prick from a pitchfork. First wash the sore with water and carbolic acid (15 drops acid to the pint of water), or clean warm water if the acid is not at hand. Now make a flax seed poultice, put a little turpentine on it and bind it on the sore. It will take the soreness out and there will be very small danger of lockjaw. Have tried the remedy a number of times and know it is good. Mrs. E. A. Dygert.

Edwards, N. Y.

Dealing with Agents.—How many good people make the mistake of allowing themselves to be swindled out of their hard earned dollars by false agents. A few years ago a fruit tree agent came through this country selling frost-proof peaches, blight-proof pears and quinces, and other novelties with high sounding names. We had been reading the P. F. too long to be taken in by such as he, but some of our neighbors gave him large orders. Many of the trees died, and those that lived did not withstand the cold or ravages of disease any better than other varieties. They might have procured better trees from the home nurseryman without paying such fancy prices. Beware of oily tongued agents who are selling something unheard of one which your own common sense tells you is an impossibility.

Cameron, Mo. Bertha H. Corn.



Sickness steals more savings than the burglar. Slowly, coin by coin, the money that has been so hardly earned is paid out for drugs and doctors. Sickness is the worst enemy of the working man, and the common cause of the working man's sickness is disease of the stomach often involving the heart, lungs, liver, or kidneys.

The use of Dr. Pierce's Golden Medical Discovery will stop the stealing of the savings by sickness. It cures diseases of the stomach and other organs of digestion and nutrition. It cures diseases of heart, liver, lungs, kidneys, etc., when these diseases are caused by the diseased condition of the stomach and its allied organs.

"About ten years ago I began to have trouble with my stomach," writes Wm. Connolly, of 535 Walnut Street, Lorain, Ohio. "It got so bad I had to lay off quite often two and three days in a week, my stomach would bloat, and I would belch up gas, and was in awful distress at such times. I have employed and been treated by the best doctors in the city but got no help whatever. By some way or other I happened to get hold of a vial of your 'Pellets,' and I thought they helped me. It was then I wrote to you for advice. You told me that by my symptoms you thought I had liver complaint, and advised the use of your 'Golden Medical Discovery' and 'Pleasant Pellets' in connection. These medicines I have taken as directed, and am very happy to state that I commenced to get better from the start and have not lost a day this summer on account of my stomach. I feel tip-top, and better than I have for ten years."

Accept no substitute for "Golden Medical Discovery." Nothing else is "just as good."

Dr. Pierce's Pleasant Pellets regulate the bowels.

Our Barter Column.

Advertisements will be received for this column from our yearly subscribers only. Only advertisements of farms for sale, articles for exchange, help wanted, positions wanted, etc., will be received. Charge 1 cent per word for each insertion. No advertisements of less than 25 words or more than 10 agate lines will be admitted to the column. This column will appear each alternate week.

☞ **Special Notice.** The farms advertised in this column must be the farm of the advertiser, and not placed in his hands by another person for sale or exchange. No advertisements from Real Estate Agents will be accepted for this column; they must go in our regular advertising columns at regular rates.

Wanted. A good, full Berkshire boar ready for service, at reasonable price. Write me, J. Frank Warlick, Crouse, N. C.

I Want a man with family to work on a fruit farm and learn the business. A Southern man, Dane or Swede preferred. W. H. Rochelle, Medon, Tenn.

Sale or Offers. Holstein bull, year old, dam sired by Ohio Experiment Station bull; young calves. Clark's Cutaway harrow wanted. H. N. Musser, R. 5, Wooster, Ohio.

For Sale. 100 acres, 15 improved; good buildings; young orchard, ½ acre strawberries, and good water. Price, $1000. For full particulars address, J. Houghton, Ashland, Va.

For Sale. Good dairy farm, containing 100 acres, in Wayne Co., Pa. Good house and barn; good soil. Would make good Summer residence for city people. Address, Warner Lester, Equinunk, Pa.

"**O Give Me a Home in the South.**" I can't give you one, but I can sell you an 80 acre farm reasonably in the land of the big red apple. If interested address, S. R. Ahrens, Rural Route No. 2, Fayetteville, Ark.

Your Chance! Need money! For $300 will sell 8 solid lots, near centre of live money-making city of 10,000, Murphysboro, Jackson Co., Ill. Rare site for store and poultry combined. Title warranted. Thorpe, Oaklette, Va.

Wanted. An experienced man to rent farm of about 200 acres, on Bingamon Creek, near Grangeville; cash or shares. Good market for all products; good neighbors, school and churches. R. E. Mason, Fairmont, W. Va.

Wanted. By capable, reliable, sober man, with family, to manage truck, garden, or general farming. Many years' experience. Require good house. Forty dollars month; best reference. Address, J. W. B., Box 234, Williamsburg, Va.

For Sale. Dairy farm and milk route. 250 acres; 175 in cultivation, balance timber; one half mile from city of 2500 inhabitants; 80 acres in grain; good house; two barns, and silo. Thirty dollars an acre. M. C. Rice, McMinnville, Warren Co., Tenn.

For Sale. 640 acres of fine, level, black, rich land, 3 miles from town, where there is 3 large elevators; all in cultivation except 80 acres of pasture; good house, small tenement house, 3 large granaries, 2 machine sheds, one 24 by 40, other 16 by 28, fair barn, good cattle shed; 2 good wells of water, one inside the house. Price, $25 per acre; easy terms. Chas. E. Hicks, Hope, No. Dak.

No Smoke House. Smoke meat with KRAUSERS' LIQUID EXTRACT OF SMOKE. Made from hickory wood. Gives delicious flavor. Cheaper, cleaner than old way. Send for circular. E. Krauser & Bro., Milton, Pa.

ROSS CUTTERS AND SHREDDERS SAVE FEED, TIME & MONEY OUR FREE FEED-SAVING LITERATURE TELLS YOU HOW TO DO IT. SEND FOR IT. THE E. W. ROSS CO., SPRINGFIELD, OHIO.

Reduced Wholesale Prices On all kinds of fencing wire, including the best Coiled Spring Wire made. Send for catalogue describing the Cleveland Fence, Coiled Spring and Steel Gates. The Cleveland Fence Co., Cleveland, O.

PAGE

If Page Fence isn't really a better fence, then we are mistaken. The material, and the labor on it, cost more, and we candidly believe it is better and lasts longer. PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH. OR GEORGE W. DORAN, EASTERN AGENT, ARDMORE, PA.

SOMETHING NEW

THE FROST

Attracts attention, but you can't hide the originals with substitutes. The Frost Coiled Spring Steel Wire was the first on the market, and in quality, perfection of coil, and service, is FIRST yet. Used in all our fences. Catalogue free. The Frost Wire Fence Co., Cleveland, O.

Carriages on 30 days Free Trial. Send for Free Catalogue. Ohio Carriage Mfg. Co., Sta. 37, Cincinnati, O.

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MUTILATED PAGE

THE PRACTICAL FARMER.

THE KEYSTONE TO SUCCESSFUL FARMING

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AGRICULTURAL.

SPECIAL NOTE.— Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

Rations for Dairy Cows.

Isaac V. Ellis, Circleville, N. Y. writes that he was greatly interested in ration given in Nov. 29th issue of P. F., but it does not quite suit his circumstances. He wants to know what to feed to make a good ration, for cows producing milk, of the following articles: "Corn silage, mixed hay, wheat bran, malt sprouts, gluten feed and buckwheat middlings." He says these are the feeds largely used in that section and many readers of these columns will be interested. I would advise the feeding of a 1,000-pound cow about 50 pounds of silage, 7 pounds of mixed hay, 4 pounds of wheat bran, 3 pounds of buckwheat middlings and 2 pounds of gluten feed, daily, on the average. Divide it, of course, giving, say silage and grain about one-half in morning and one-half at night, and the hay at noon. This ration is just about right in dry matter and carbohydrates and fat, but a little strong in protein. It is about as near right, however, from a scientific standpoint as one can readily get it. A cow weighing more or less than 1,000 pounds will need more or less of the same mixture. If she weighs, say, 1,200 pounds, why she will probably require about one-fifth more of each kind of feed. Buckwheat middlings make a valuable feed to go with silage, corn stalks, hay, etc. They are very rich in protein. One pound of wheat bran contains .122 of a pound of protein; one of buckwheat middlings, .220; one of gluten feed, .194; one of malt sprouts, .186. I put some gluten feed into the ration because it contains more carbohydrates than bran and buckwheat middlings, and helps one to get the right proportion of this ingredient. Again, I used considerable wheat bran because it contains more mineral matter than the gluten feed, which is quite necessary when a cow is carrying a calf. Now bear in mind that all these rations are correct only as a general average. They contain about what cows, on the average, can use to advantage, with no over supply, and hence waste, of any ingredient. Some cows may be able to pay for a ration slightly stronger in protein, or to pay for more feed than is given above for a day's ration. Some will not be able to use as much. Cows have their individual peculiarities the same as people, but not to the same extent.

Walter J. Abel, Moores Mills, N. Y., asks for a ration from the following feeds: "Well matured corn silage, mixed or common hay, wheat bran and cotton seed meal." It will not do to feed more than about 2 pounds of cotton seed meal to a 1,000-pound cow per day. At first she should not be fed as much as this, if she has not been used to eating it. When she is accustomed to the meal you may feed about 50 pounds of silage, 7 of hay, 2 of cotton seed meal and 7 of wheat bran per day. I would mix the wheat bran and cotton seed meal and either feed dry or on the silage, half in morning and half at night. This ration will be right in amount of dry matter, but slightly short in carbohydrates and over in protein. But it is practically about as near as one can come with the feeds named. It is near enough right for good results. But you can probably get slightly better results for money expended by substituting gluten feed for the cotton seed meal. 50 pounds of silage, 7 of hay, 7 of wheat bran and 2 of gluten feed will make an almost perfect ration for a 1,000-pound cow, on the average. It scarcely varies at all in any way from the Wisconsin standard. In the former ration, using cotton seed meal, there would be a slight loss of protein; that is, some of this costly element would probably be used to take the place of the less expensive carbohydrates; not but little, but probably some. It takes much time to study out these rations and I hope all will preserve them for future reference. I am sorry that it was impossible to get them published sooner after they were called for. When possible please send in questions some time ahead, so you can be sure of an answer on time.

Special Education for Young Men and Young Women of Limited Means.—Writer receives letters frequently from young men asking if they had better borrow money and take an agricultural course at some college. Sometimes they have a little money saved up and ask whether they better spend it in going to college. Education is a good thing. Knowledge is power; or, in other words, a trained mind stands a better chance of making its mark in the world. It is good for its owner and the world at large. But there are comparatively few who can take a college course. More can take the short Winter course of 10 or 12 weeks now offered by most agricultural colleges. But there will still be many thousands who cannot avail themselves of either of these opportunities. Yes, there are thousands of young men and young women among our readers who must go without special education unless they can get it at home and at small cost. What is the chance for them? I will tell you. Write to the Home Correspondence School of Springfield, Mass., for particulars. You have noticed their advertisement in the P. F. I fully believe they are doing a grand work, or this notice would not meet your eye. I have heard only enthusiastic and favorable reports from those who have taken any of their courses. I personally know their instructors are among the best in the land. And still the work is so systematized that the cost is very moderate. For example, the agricultural course costs but $18, and the work is under the direct personal charge of Prof. Brooks, of Massachusetts State Agricultural College. The text books used were prepared expressly for this work by Prof. Brooks. They are: "Soils and How to Treat Them;" "Manures, Fertilizers and Farm Crops;" "Animal Husbandry." These books are furnished free, that is, $18 covers the entire cost of course, as I understand, and one may be 2 years taking the course, or even 3 in case he or she is delayed by sickness. The cost of course in horticulture and fruit growing is $18, and Prof. Bailey has charge of this, and all know that he is the very highest of authority. There are altogether some 80 courses of instruction, such as commercial, shorthand, bookkeeping, drawing, chemistry, geology, botany, languages and almost anything else you may want to learn about. Write to the above address for particulars. Then choose the line of study that will be most helpful to you, after deciding in what direction you can best make yourself useful. Everyone needs now a good common school education. Get that anyway. Beyond that I would not waste my energies trying to get a general knowledge of everything. There is too much to learn now-a-days. Take special courses that will help you to master thoroughly what will be your life work. Many of our young people can well put in much time this Winter in learning what will be of use to them as the years roll on.

Corn Stalks for Horses.—Wm. Heyser, whose address I cannot make out, asks if corn stalks are safe feed for horses. He has 16 head of cattle, 5 horses, plenty of corn stalks and little hay. Corn stalks that are free from smut, and which were cut up as soon as corn was glazed and well shocked, and which have not bleached out badly in rain and sun make good, safe rough feed for horses, or cattle, if cut up finely. Of course, they must have proper nitrogenous grain feed with them, as has been shown in these rations heretofore. Stalks that were cut up late, and which are badly weather beaten, have little nutrition in them. They are apt to cause indigestion, as a horse must eat too much to get a little. This is particularly true of stalks in the West that have stood in the field uncut and which are pastured off. Even steers suffer sometimes from eating these. Good bright corn stalks are all right when fed with proper grain.

Health Hints.—How to Avoid Injury from Exposure to Cold.—Amount of Sleep Needed.—The following is extracted from the letter of a good friend: "We are reading your health hints with a good deal of interest. We believe them, for the most part, but do not practice them a great deal, except in the matter of fresh air. Can't you expand a little? You have treated bathing, diet, fresh air and exercise, until we know these topics by heart. Farmers are much exposed to extremes of heat and cold, rain, snow, etc. How can they manage so this will not injure their health? Near cities gardeners and trucksters lose much sleep. How can they manage to prevent evil effects?" Now, my dear sir, the reason why I keep bringing up the matters you name, fresh air, plain food, exercise, etc., is because they are so vastly important if one wants to enjoy good health through a long life. And there is no way to get people to pay attention to these matters, to realize their full importance, except to keep bringing them up in different forms from time to time. Don't you see, in your own case, my dear friend, you say you know these matters all by heart, but do not practice them a great deal, with one exception? I want you to practice all of them, so far as your circumstances require. Sometimes I get discouraged. For example, I was in a home not long ago where the P. F. is read, and where a furnace was put in after my article on this subject was published last Fall. And they had deliberately arranged to take all air for the furnace from floor above, thus heating and breathing over and over the same air all the time, except what little might work in around doors and windows. This to save fuel. No ventilation whatever; no bringing in of fresh air. In this particular home there is a young lady, flat chested and of small lung capacity. The chances are more than even that she will have consumption within a few years, quite likely before Spring. God knows the writer has done all he can to prevent this. Consumption is a disease due almost entirely to breathing impure air over and over in close buildings. Many furnaces are being put in in this same careless manner. But now in this matter of extremes of heat and cold, etc. It is quite a strain to go out of a warm house into a temperature from 50 degrees to 100 degres lower, in Winter; and then the exposures to cold winds and snow. But it can be done safely, if one is reasonably careful. First, a cool bath every morning, with vigorous rubbing of skin for some 15 minutes will be a great help. It keeps skin healthy and able to react after chilling without injury. Then there should be thick soles under the feet, and one should be dressed warmly enough so his body can keep up the animal heat without over exertion. There can be no fixed rule about clothing, as people differ so much, only to wear clothes sufficient to keep you just fairly warm. I believe in wearing clothes enough to keep warm with a temperature in house of not over 70 degrees. Some keep the house much warmer than this. It makes a greater change when we go out and is more unnatural. Next comes an important matter that is sadly overlooked. Breathe through the nose only. If you cannot do this go to some good physician and see if he can remedy the difficulty so you can. I have often watched the people I met on the streets in St. Paul, when it was very cold. The great majority were breathing through the mouth. This is an unnatural habit, and changes of temperature are more likely to make trouble when it is followed. The nose was made to filter the air we breathe. Now with these precautions cold air is a tonic and builds up vitality. Those who are delicate, or who have throat troubles, will find it helpful to go out of a heated house gradually, and come in in the same way. Tarry a little at the door, in hall or vestibule, particularly when going out of a crowded warm hall, or church. Don't go to the fire at once when you come in. Let changes be gradual. When much exposed to cold, farmers should be particular to have food that furnishes all the starch, sugar and fat they crave. And it will be a good deal if they are at work when in the cold. If you get wet, a skin in a vigorous condition from cool bathing and rubbing, and the body healthy from eating plain, simple food, will enable you to laugh at taking cold, under any reasonable exposure. It is best to keep exercising, however, when clothes are wet until you can rub yourself and put on dry clothes.

I suppose the gardeners and trucksters lose sleep by going into the city very early in the morning. They should go to bed early enough to get needed sleep, or else take a nap in the afternoon when they get home. A certain amount of sleep is required for perfect health, but individuals vary considerably in the amount needed, owing to the difference in their organizations, age and circumstances. Authorities say too much sleep may be as bad as too little. Again, sleep before midnight is considered more restful, hour for hour, than two taken after that time. If, when all is normal, and you go to bed regularly at 9 P. M., say, you sleep soundly for 8 hours, on the average, then that is about the amount of sleep you need, and you should certainly get it in one way or another, daily. One better take an hour or two for a nap in the afternoon than to wear himself out prematurely. Sleep is nature's restorer for a tired person. Just enough will make us as good as ever. Never think time spent in sleeping soundly is wasted. To lie and doze along, after one is through with sound sleep, is another matter, more pleasant sometimes, perhaps, than really necessary for the best of health.

T. B. Terry.

A Trip in the Land of the Sky.

PROF. W. F. MASSEY.

The editor spent a week or two the past Summer in a series of Summer Institutes in the Piedmont and Mountain country of North Carolina. The first of the series was held at Snow Camp, a village with a woolen mill, near the south foot of the Cane Creek mountain, a foot hill in the county of Alamance, and not far from where the first blood was shed in resistance to British tyranny that led to the Declaration of Independence, at Charlotte in 1775, the battle of Alamance, between the colonists and the troops of the Royal Governor Tryon. In an old family residence there I was shown an old oaken arm chair on the back of which is a brass plate with an inscription reciting that the chair was brought to North Carolina by Simon Dixon in 1751, and that it was occupied by Lord Cornwallis on his retreat from the battle of Guilford Court House in 1781. This battle was the turning point in the Revolution and sent Cornwallis to his fate at Yorktown. Leaving this pretty valley and its well cultivated farms we went westward, holding an Institute at Guilford College, a beautiful place in which the Friends or Quakers conduct a highly successful college. In the auditorium of the college we had a highly intelligent audience and a very interesting meeting. Sunday was spent in the interesting town with the double name Winston-Salem. Winston is a prosperous city that has sprung up alongside the quiet old Moravian town of Salem. Here, over a hundred years ago came the Moravians from Pennsylvania, and established their settlement. True to their love for education they built a great school for girls, which is still a flourishing institution with its quaint old brick buildings of ample size, shaded by magnificent oaks, and with a park of the original forest for the use of the young ladies. The old church, an ample structure still fills the needs of the town, and on a hill back of the town is the beautiful "God's Acre" where the dead of the congregation repose, each with a simple square slab over the head of the grave and nothing more. The avenue in front of the cemetery is lined with ancient cedars of great size, and no driving or bicycle riding is allowed along this avenue. Down in the valley below the town are the factories of all sorts in which the people are engaged, for the Moravians are thrifty people and many are wealthy. Soon after leaving Winston our party divided and two of us took the Mountain series, going by rail to the little town of Lenoir, nestling among the foothills of the Blue Ridge. Here we found a comfortable vehicle with a team of four horses ready to take us to the village of Blowing Rock on the crest of the Blue Ridge. It was a drive of 22 miles, first crossing the divide between the waters of the Catawba and those of the valley of the Yadkin, up which stream we rode through pretty bottom lands with fields of waving corn till we came to the foot of a long mountain spur up which the road climbed. It was a long continuous pull of ten miles up, and the top was reached just as the hotels were having supper, which was by that time welcome to us. At the hotel that night we slept under two pairs of blankets and a counterpane, for the village is over 4,000 feet above the sea level. A visit to the rock which gives the place name was the first thing before breakfast. This rock juts out over an awful precipice and one looks down on the tops of the forest trees thousands of feet below, and involuntarily draws back. Off in the distance there are mountains piled on mountains to the shadowy outline of Mount Mitchell, the highest point of land this side the Rockies. Not a leaf was stirring, but holding one's hand over the edge of the rock a strong upward draft is perceived, and at times it is so strong that a hat thrown over will come back to the rock. The heated air of the valley is always rushing up that deep chasm. From Blowing Rock we drove in the early morning to Boone the county seat of Watauga county, ten miles away, and 1,200 lower than Blowing Rock and in the drainage of the New River, which rises in a Spring at Blowing Rock, and flows north through West Virginia to the Greenbrier and then to the Kanawha and the Ohio. But a hundred yards from the New River spring is another spring from which the Yadkin takes its rise and flows through North and South Carolina, changing its name to the Pedee River before entering South Carolina, and emptying into the Georgetown Bay. Boone is in a little valley surrounded by lofty mountains, and the valley itself is 3,000 feet above the sea level. Here we found our watches were an hour fast, as the town keeps Central time, and is but 13 miles from Tennessee. The mountain people came out and we had a very interesting meeting. The next day was spent in a journey through the mountains over the worst of rocky roads, twenty-five miles to Jefferson, the county seat of Ashe county, still on this high plateau 3,000 feet above the sea. The forests of white pine and hemlock made the country look like Canada, and the nights were cold enough to make us think we were a long way north of the old North State. Jefferson is one wide street with a row of sugar maples on each side and two rows of great cherry trees down the middle, making three roadways of the streeet. Back of the town the Negro mountain rises with a crest of black rock and makes one of the most striking elevations above the plateau. Here we were in a grass and cattle country. Haystacks were everywhere in the valley, and the cattle all gave evidence of Short Horn blood. But little corn is grown, and to the passer by the whole country seems in grass On this elevated section the people must always be graziers and raisers of cattle for others to finish; for corn is selling there now for $1.25 per bushel and they cannot afford to finish beeves. I was told that they will send many cattle to Illinois to fatten this Fall. The country east of the Blue Ridge, where corn and cow peas can be grown will always be able to beat the mountain plateau in finishing beeves if they once realize their opportunity,which as yet they do not. The idea of planting cherry trees in the street was a novel one, and they told us that the trees supplied all the town with all the cherries they wanted. We rather envied them the cherries, since down in the warm part of the State they cannot be grown. But up here among the white pines and hemlocks it was hard to realize that down in the far corner of the same State there were cabbage palms in the forest. From Jefferson to Sparta was another rough ride of 25 miles. Sparta is a village in Alleghany county, and is the county seat. The stockmen turned out and we had there,as at Jefferson,an interesting meeting. The same evening after the close of the meeting we drove 8 miles to a hotel at Roaring Gap on the crest of the Blue Ridge. This crest is but a hundred or two feet above the valleys through which we had been traveling, and we there at once got an idea of the height of the great Alleghany plateau, for on reaching the hotel we suddenly came out on a crest and looked down over the wide valley of the Yadkin River which lay like a map down below us in a vast panorama, and we could see towns from right to left that are eighty miles apart by rail. The view is far more extensive, though less impressive in the nearby view than at Blowing Rock, though the site is 1,000 feet lower than at Blowing Rock. A drive the next morning down the mountain brought us to Elkin, and the Elk Inn, where they show the horns of the last elk killed in the valley. A short railroad ride to Rural Hall and then 14 miles drive in to the foothills called the Sauratown mountains brought us to the Vade Mecum springs where there was a crowd of people drinking the salty lithia water. We had a rousing crowd the following morning in a section where Institutes have never before been held. The next day down to the railroad again and off for Raleigh, tired and worn, but enjoying the trip and hoping that much good has been done. One peculiarity in the mountains of North Carolina strikes the stranger. This is that on nearly all of these mountains, unlike mountains in general, the soil is rich to the top, and there is a constant temptation to clear steep lands for cultivation which should always be left in forest. The magnificent forests are rapidly giving way, and it is hoped that the Appalachian Park will be established by the next Congress, and preserve these sources of the rivers from being cleared, and the lower country from disastrous floods. In these mountains there is the greatest forest growth, particularly of hard wood trees, on the continent, and in looking out from the mountain top one is impressed by the fact that the forest still covers by far the larger part of the country as far as the eye can reach. A wise system of forestry will preserve this forest for all time and make it profitable to do so. Now the lumbermen are wasting it.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Corn Silage and Shredded Stover.—A subscriber suggests as a topic for the Experience Pool, "Is corn silage of any more feeding value than the same corn properly cured and shredded?" This is hardly a discussable question. There is no doubt that if the shredded corn stover and the corn is fed and eaten the feeding value will be as good as that of the silage. But, of course, mere shredded stover is not as good as the whole corn made into silage. The great advantage in the silage is that it is eaten up cleaner, owing to its succulent condition. Putting corn into the silo adds nothing to its feeding value, but simply puts it into a more palatable condition and comes nearer to the succulence of the herbage the animals have gotten in pasture during the Summer, and hence more of it is eaten than of dry fodder.

Fertilizing Clover. — E. T. Moore, Preston, Md.—"My corn field for next year had a good stand of clover the past Summer. It was pastured close, and about half the field has been manured this Fall. What kind of phosphate should I use on the remainder, and how and when to use it for the best results? I have a field that has a fine stand of clover. I want to cut it for hay and put part in tomatoes Will it pay me to phosphate the clover, and when the hay is cured plow the rest of the land for cow peas? If so, what kind of phosphate and how much per acre? Some papers I can do without, but I must have the P. F. every week." We would say to our friend that there is only one kind of phosphate used in fertilizers, the phosphate of lime. You have fallen into the incorrect habit common on the Eastern Shore, of calling all commercial fertilizers "phosphates." The phosphate of lime made soluble by sulphuric acid is a component part of all the various brands and it is the only thing in them properly called a phosphate. Now as to the clover sod that is to go in corn, we do not think that it will pay you to use any fertilizer except plain acid phosphate and potash mixed in six parts of the first to one of the last named, which should be in the form of muriate of potash. We would use 400 pounds per acre, broadcast, after the land is plowed and then work it into the soil in the harrowing. The soil in your neighborhood is generally light and thin but easily improved, and the place where the commercial fertilizers will do the most good is on the pea crop. The same fertilization advised for the corn will give you good results on the peas. We would apply to the clover this Winter or early Spring, about 10 to 15 bushels per acre of freshly slacked lime, either shell or stone lime. This will help the clover crop as much as anything you can use, and will not then damage the pea crop as it will if directly applied to the peas. Then when the clover is cut plow land well and apply 400 pounds per acre of the acid phosphate and muriate of potash and harrow it in before sowing the peas. For the tomatoes, in our experience, there is nothing equal to a compost of stable manure and woods earth piled and turned a number of times before using. If you feel that the P. F. is helpful to you try to extend its help among your neighbors.

Dogs Wanted.—H. F. Bradley, Md., wants to know where he can get hounds and Harrier puppies. Those breeding such things should advertise them in the P. F. The editor does not know of any breeder of these dogs.

General Debility

Day in and out there is that feeling of weakness that makes a burden of itself.

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It is hard to do, hard to bear, what should be easy,—vitality is on the ebb, and the whole system suffers.

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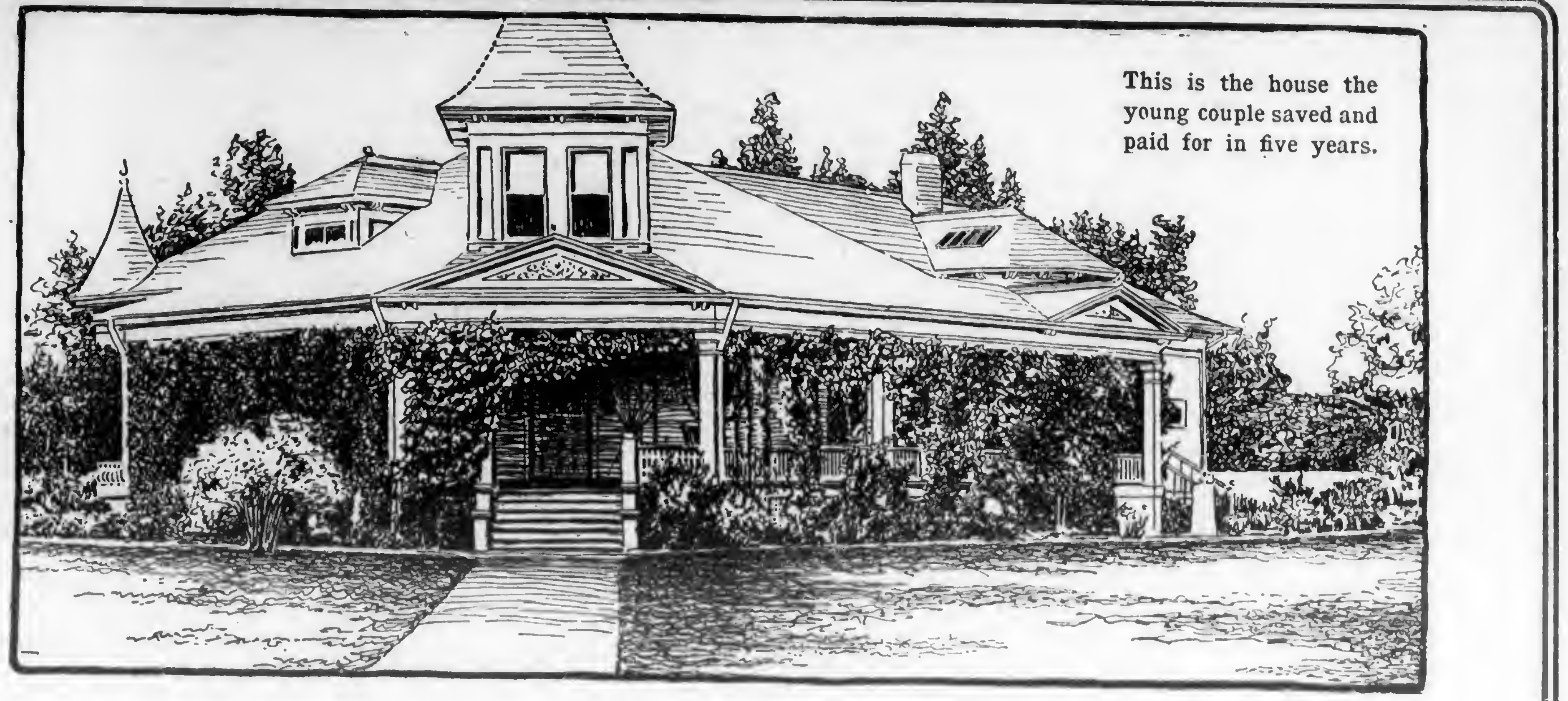

This is the house the young couple saved and paid for in five years.

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They put by $7 a week, and the house at the bottom of this page is now theirs,—entirely paid for. A third young couple's income was $16 per week. They saved $8 of it, and bought and paid for the house at the bottom of this page. How these and 97 others did it, step by step, dollar by dollar, is all told in the great series, *"How We Saved For a Home,"*—100 articles by 100 people who saved for and now own their own homes on an

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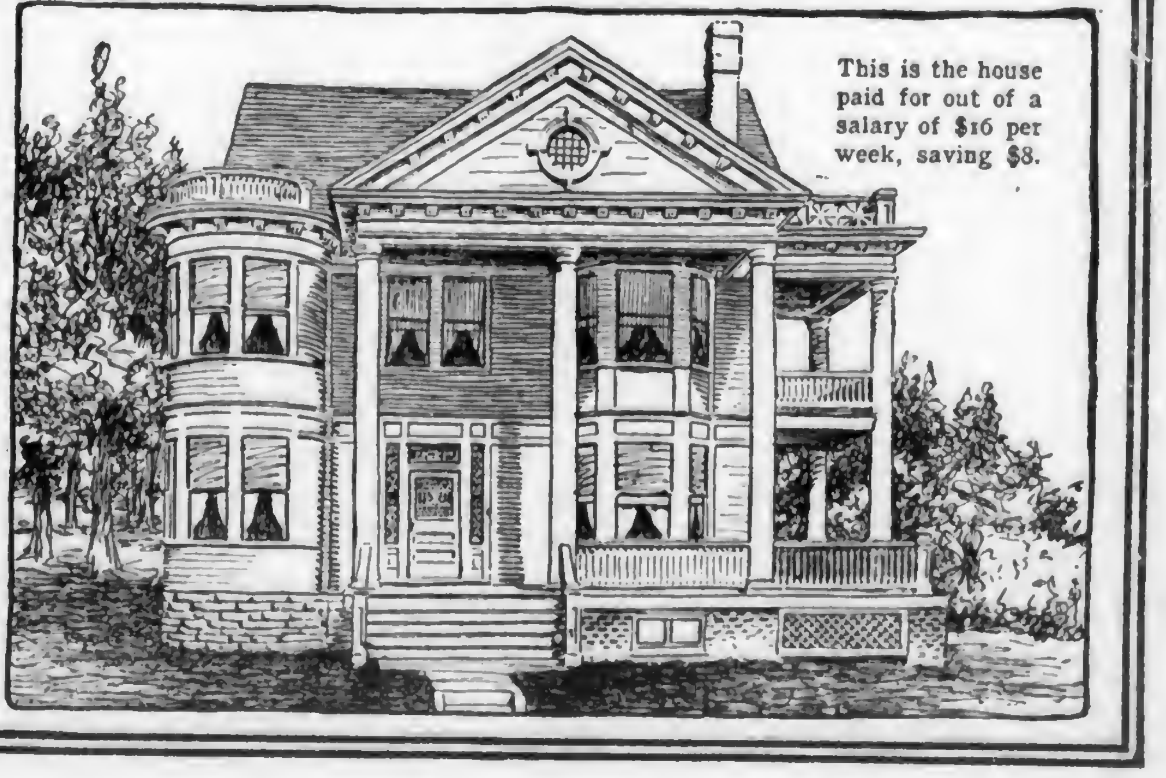

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Live Stock and Dairy.

A Great Combination.

While we keep this department up-to-date on stock and dairy matters, we know that many of our readers would like, in addition, an exclusively stock paper. Among them we regard The Breeder's Gazette, of Chicago, the leading one. We have made arrangements by which we can send the P. F. and The Breeder's Gazette both one year for only $1.90.

Points to be Considered in the Economic Production of Beef.

(CONCLUDED.)

We have, at present, a great many men who are cattle feeders. This method has some advantages and many disadvantages. There seems to be a great many uncertainties about this kind of work. The cattle feeder must, first of all, buy his animals right else he cannot hope to realize a profit. It is very difficult to get animals of good quality. This is due largely to the fact that the men who breed the cattle have been accustomed to receiving a certain price for animals of the various ages with little or no discrimination so far as quality is concerned. All two-year-olds brought about the same price, thus there was not much encouragement for the breeder who spent money in securing valuable sires. We are glad to note a decided change in favor of the man who breeds good cattle. The feeders are acting wisely when they are willing to recognize good blood and quality by paying more for the same. It is certainly most gratifying to receive a letter from a commission merchant stating that he is about to receive a bunch of cattle from a certain ranch where nothing but the best of pure bred sires have been used for a certain period of years. Range cattle are no longer being sold as just "range stuff." They are being graded and sold on their merits. When this policy is universally adopted the results will be far reaching. It will mean better markets for our surplus bulls, better feeders for the corn belt farmer to put in his feed lot, and last and most important of all, a much better market through which the farmer may dispose of his corn crop. Success in any line of work is largely governed by the methods pursued at the beginning. This is especially true in the production of beef. There is no other one feature of the business quite so important as to have the right kind of an animal. An animal possessing the desired form combined with plenty of quality. Bear in mind that width of back, loin and hind quarters are indispensable in the good steer. The three factors which determine the selling price of the steer in any one of our leading markets are percentage; that is per cent. of dressed weight to live weight; quality; that is, a thick covering of good flesh over the back and loin, and proportion, which means as much weight as possible in the back, loin and hindquarters where the high priced cuts are to be found. Having secured the right kind of an animal the next and most important is how to secure the greatest gain in weight at the very lowest cost. When feed stuffs were low in price and labor was high the feeder acted wisely when he economized labor at the expense of feed. With corn ranging from forty to fifty cents per bushel he can no longer follow such methods. It is now a question of economizing in feed. The feeder must get more pounds of gain from a bushel of corn than he has ever done in the past. In this respect there is a great need for investigations pertaining to the advisability or non-advisability of feeding lighter grain rations. If fifteen or eighteen pounds of corn per steer per day will give as good results as twenty-five and thirty pounds of the same, it certainly would be much more economical for the feeder to adopt such methods. Feeding experiments conducted at the Minnesota Station and at the Ontario Agricultural College with light, medium and heavy meal rations for fattening steers have shown the medium and light rations to be much more economical than the heavy rations. In these experiments, however, the gains calculated were those made by the cattle alone, as there were no hogs to utilize that part which the steer did not assimilate. With our present methods of feeding we are simply at the mercy of the hog and the ravages which afflict him. If cholera attacks the hog and wipes him out, about twenty-five per cent. of our high priced corn is wasted except from a fertility standpoint. This is a question which every farmer should study carefully. How can he make beef without the hog to consume the waste feed? Not that we have any objections to the hog, for he certainly is the farmer's best friend, but we must be prepared for emergencies. We must feed cattle oftentimes when we have no hogs. We must study more carefully the process of digestion of feed stuffs. When we see from twenty to thirty per cent. of the corn which a steer is made to consume passing through the digestive system it is a sure indication that there is something wrong. We are either feeding the animal more than it can assimilate or its digestive system is out of condition. In most instances the trouble is due to a deranged digestive system caused by over feeding. This leads up to another point which is the mixing of grain and roughage together, which is, in our estimation, the ideal way of feeding cattle. When the grain is fed separately from the roughage it is greedily swallowed and passes into the third and fourth stomachs of the animal, thus escaping mastication and the action of the saliva of the mouth which has the power of converting starch into sugar which is digestible. By mixing the grain with the roughage it will be re-masticated, thus much more thoroughly digested than when each are fed separately. This method of feeding involves the cutting of roughage, a step which most farmers are not prepared to take as yet, but one which they can well afford to be thinking about, as in the near future it will be practiced by the most successful cattle feeders. Another question which is worthy of our attention is the silo. The silo, while a new thing in Iowa, is by no means an experiment. It has been thoroughly tested in the Eastern States and Canada and when once tried it speaks for itself. It is now considered to be indispensable on the dairy farm, and while it has not been, as yet, very generally used in the production of beef, the results as reported to date are most encouraging. The silo is by all odds the cheapest medium through which we can obtain succulent feed for our stock during the Winter months. In recapitulation I may say that the successful farmer of the future will be the man who combines the production of first-class live stock with his farming operations, who keeps beef cows for the double purpose of producing butter and calves intended for the block, who gets nearly as many pounds of gain from sixteen pounds of corn as the average feeder of today gets from twenty-five pounds when fed to cattle. Who combines his grain with the roughage fed to his animals thereby securing more complete digestion of the same, and who stores his corn stalks in the silo that they may be converted into beef and dairy products instead of being burned in the fields.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 1016 Davis St., Evanston, Ill., who has editorial charge of this department. All inquiries requiring answer by mail must be accompanied by a fee of $1 each.

Sweeney.—I have a 7-year-old horse that commenced showing lameness in front early in the Fall of 1901, but very slight and only for a few days at a time. Then he would seem all right for from one to three weeks. He would show it the most in turning. He has gradually got worse and during last Summer he began to sweeney in both shoulders. I kept blistering lightly and finally succeeded in getting the sweeney all out of one shoulder but the other is as bad as ever. It is in the top of the shoulder and in the front and also in the back part of the shoulder. The lameness is gone from one leg.
Angola, Ind. WALTER H. WARD.

It should be remembered in these cases that wasting of the muscles of the shoulder often indicates lameness in the feet rather than in the shoulders. It may be that you are right in attributing the lameness in this case to the condition of the shoulder muscles, but we would advise you to make a careful examination of the feet for corns or other cause of lameness. To restore the lost muscles inject ten drops of turpentine under the skin at points 2 inches apart all over the wasted part. Inject by means of a strong hypodermic needle and syringe. This will cause much swelling, which will subside after a time and cause the muscles to grow. If the first injection does not completely restore the muscles repeat the treatment in from one to two months. During this time the horse should be generously fed on oats and bran and be given work or plenty of exercise every day.

Skin Disorder.—I have a seven-year-old mare that has had an itch for some time. Small pimples on the skin, mostly about the neck. I tried a remedy for nettle rash, which I found in the horse and cattle doctor, but did not cure. Will you please give me some advice? Mare is fed on corn and fodder, with green rye twice a week.
Aiken, S. C. M. T. BERRIE.

First see to it that chicken lice are not the cause of this itchiness of the skin. We often find that where the skin is irritated about the head and neck that chicken lice are the cause. Clip the hair from the parts affected and wash with 1-75 solution of Chloro-Naptholeum three times a week. Change food to oats and bran mashes and avoid corn and green rye. These foods are liable to heat the animal and cause skin disorders, and especially so if the animal is not worked or given plenty of exercise and stands in a hot, badly ventilated barn which is not kept properly cleaned. If you are not successful in curing the case with the above treatment then add internal treatment by administering night and morning for two weeks, half an ounce of Fowler's solution of arsenic. At the end of two weeks commence to let up on this treatment but do not stop it suddenly. Allow a lump of rock salt in manger to be licked at will. See that stable is cleaned, whitewashed and well ventilated.

Dead Pigs.—We have a brood sow that dropped 7 pigs dead and 2 alive and the 2 lived about 24 hours. Is the sow likely to lose her pigs next time? Or will it pay us to keep her or not?
Harrisonburg, Va. T. F. BRUNK.

If you feed and manage the sow properly there is no reason that she should not bring a live litter next time. We find from experience that where sows have the bad luck described they have usually been heavily fed on corn and have not had sufficient exercise during pregnancy. If you will see to it that before serving her again she is got into healthy condition by exercise and feeding on such foods as middlings, bran, ground oats and oil meal along with succulent food such as silage, roots or green stuff and that when pregnant she is fed in this way while exercised, she will have no trouble at pigging time. It is heavy feeding, fat condition, costiveness and lack of exercise that lead to weak litters or dead pigs such as you report.

Verminous Bronchitis. — Curb. — 1. Can you tell me what is the matter with my calves and what to do for them? About September 1st I took them out of bottom pasture grass. They coughed a hacking cough. Put them on high land and in barn nights and fed hay cut from bottom pasture. I gave them one-half teacup of coal oil and one died and another one is down. Some of them look well. Seemed to have good appetite till I gave coal oil. 2. I have a horse 3 years old last June. I broke him last Spring to work. He curbed himself in pasture. I used blister and spavin cure. Didn't seem to do any good, so I used turpentine and sweet milk, equal parts and cured lameness. Worked all Summer, but this Fall when I pulled shoes off got lame again and bunch is growing.
Gravel Ford, Ore. W. M. WEEKLY.

1. The calves are afflicted with verminous bronchitis and it was contracted on that low land. A tablespoonful dose of coal oil would have been plenty and the amount you gave was quite sufficient to seriously affect calves as stated. Verminous bronchitis is due to thread like worms, known as strongylus micrurus, in the wind pipe and air passages of the lungs. Internal treatment is insufficient for the cure of this disease. The common method of treatment is to expose the affected calves to the fumes of burning sulphur in a room, the windows and doors of which are to be thrown open at once when calves are in danger of suffocation, as indicated by severe coughing. We prefer to fumigate with iodine. It may be done in the following way where but a few calves have to be treated; pour a teaspoonful of tincture of iodine upon a hot brick, place the brick in a sack, then insert the head of the calf for a few moments over and over again. This treatment is to be repeated two or three times with intervals of three days between treatments. It will kill the worms, but they will have to be coughed up afterwards, so that calves will have to be well fed and cared for. Internal treatment, which should be given in conjunction with the fumigation consists in giving two ounces of a 1-100 solution of coal tar creosote twice a week for two weeks or even longer if necessary. Calves should be generously fed upon crushed oats and bran and have milk if possible. Where a large number of calves are affected they may be fumigated with iodine by using the tincture of iodine in a vapor lamp in the same way as children are fumigated when afflicted with whooping cough. It is impossible to keep calves free from this disease if they are allowed to pasture the low wet ground. Where the disease has been experienced calves should not be turned out to grass at all during the first twelve months of their life, but should be well fed in large clean yards. 2. The best treatment for curb after what you have done would be to have it puncture or feather fired and blistered by a veterinarian. If you cannot have this done then clip hair from part and blister with cerate of cantharides, one ounce; biniodide of mercury, one drachm; mix. Tie animal up short so he cannot lie down. Rub the blister in for 15 minutes by the watch. Wash it off with soap and warm water in 48 hours; then apply lard daily. Repeat the blister in three weeks if skin is well enough. In such cases it is well to keep toe short and apply a shoe having heels but no toe calkins. Also prevent colt from straining part. Sudden stopping as where colt is pulled up short in harness or when stopping short at a gate when galloping at pasture tend to cause the trouble. Avoid breeding animals having curby shaped hocks.

Lameness. — I have a horse, weight, 1,500, age, 9 years. He was sick all last Winter. It is the same horse that you doctored for indigestion. He was so bad I could not take him out for exercise. Now he is sore and stiff. It appears to be the big cords inside of forelegs from foot to body. I blistered him with English Spavin Liniment, which helped him some, but is quite sore yet.
Ridgway, Pa. W. J. D.

Shorten toes and put on shoes with high heels but no toe calkins. Clip hair from back tendons from foot to knees, then blister with cerate of cantharides. It may be necessary to repeat the blistering in one month and in such cases it is always best to have the tendons fired and blistered by a qualified veterinarian. It should also be added that one should be very careful to see that the tendons are the real seat of the lameness, for, as the horse has had so much trouble from indigestion, it is very possible that he was foundered, in which case the feet would be the seat of the lameness. In that case the sole would be dropped at the point of the frog and pain would be evinced were you to strike the part indicated with a hammer. Do this and if founder is found to be present then clip hair from coronets (hoof heads) and blister once every two weeks with cerate of cantharides, two ounces; biniodide of mercury, two drachms; mix. Rub it in for 15 minutes; wash off in 48 hours, then apply lard daily. A foundered horse should stand during the day upon wet clay if not at work.

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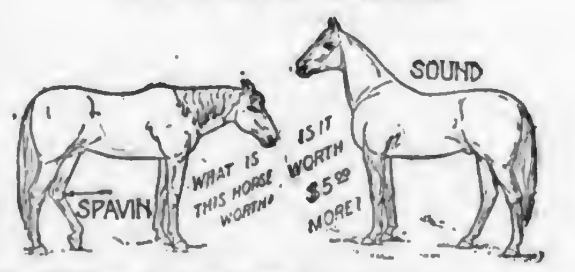

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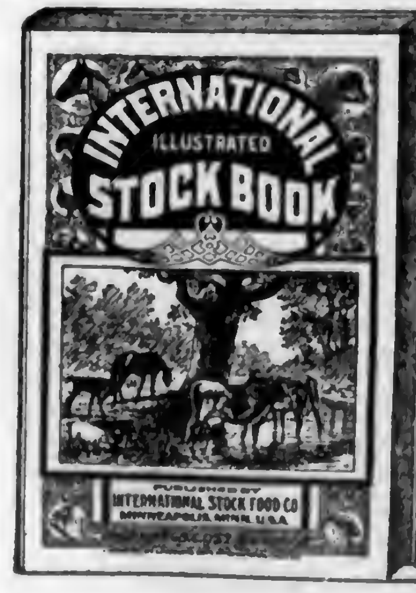

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THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

Talks on Timely Topics.

Storing Vegetables for Winter.—On the subject of Winter storage of vegetables for family use, Dr. G. G. Groff, of Pennsylvania, says: "Potatoes will keep very well without wilting in any cellar which is frost-proof. The other roots, viz., turnips, radishes, beets, carrots parsnips and salsify, must be covered with earth or they will wilt. Our plan is to take a small barrel or keg, size to depend upon quantity of the root used—in our family a half barrel, one for each of the roots—fill and cover with a bucketful of garden earth. They are easy to get at, and in our cellar keep well until Spring, when we carry the barrels out and store them in the barn. Onions require a cool and dry place. A shelf in the cellar answers very well. If the cellar is too warm they will sprout." A keg or barrel will answer first-rate for the roots mentioned. In place of the earth or muck, any covering, even a basketful of dry leaves, will do well enough and serve the purpose of keeping the roots from wilting. That really is all that is required. For onions I prefer a dry, frost-proof loft or garret; or if cold enough to freeze the onions, they should be covered with straw, hay, blankets, etc., and kept frozen until wanted. Cabbage, Dr. Groff says, should not be stored in the cellar.

"It is very liable to decay and send foul odors all through the house. The roots are entirely safe, because they do not commonly rot. The most convenient method to store cabbage for use is to bury it in barrels. We dig a trench about a foot deep, lay the barrel in it with open end a little elevated, fill with cabbage nicely trimmed, throw a little earth over the barrel and close the open end with a board, a sheaf of fodder or any other convenient material. In this way a head can be got in a moment. Long keeping apples may be stored in the same manner as cabbage, and the advantage over burying this fruit in the ground is that when in barrels the earthy taste is not given to the fruit. To the methods here given it is objected that vegetables will decay in the cellar, and so become dangerous to the health of the family. It is true that no decaying vegetable matter should be in the cellar any more than in the kitchen, but the danger only exists in the case of cabbage, rarely with the potato, and late in the Spring cabbage should not be stored at all in the cellar. If the potatoes rot they should be removed at once, and the cellar should be cleared of all vegetables as soon as the weather becomes at all warm in the Spring. If these precautions are observed the family will not suffer in any way. But in every community there are careless people, and we have seen decaying cabbage leaves in cellars in June, left there from the preceding Winter. Eternal vigilance is the price of exemption from disease."

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Current Comments.

Vinegar. — Earliest Strawberries.—Early Corn.—J. L. Reidert, of Northern Michigan, asks some questions on these points. If the barrel of cider bought of a storekeeper was genuine cider vinegar, you can easily keep a good supply of good vinegar right along by adding from time to time cider, new or old, or rain water sweetened with molasses, sugar or honey. The mucilagenous matter that came to the top is what is known as mother of vinegar. I usually clear it out occasionally, or leave it out when rearranging my supply of vinegar in the barrels. For a first early strawberry I know nothing better than Michel's Early. This is a tremendous plant maker, extremely early, although not particularly prolific, nor of highest quality. But it gives ripe berries long before other varieties do, and therefore at a time when they are much appreciated. Splendid is not bad for an early one, and might be tried. For the earliest sweet corn we yet plant strains of the Cory, and for the earliest field corn, the common yellow or red flint grown here is as good as anything.

Cabbage and Onions for a Short Season.—A. R. Turner, of Dale, Oregon, where the Summers are very short, inquires about cabbages and onions. I should think that almost any of our cabbage varieties, even the ordinary Winter sorts, will mature there, if planted early enough. Why not try? The Early Winningstadt, however, is a very good and very reliable mid-season cabbage, and will surely mature if planted in Spring. Prizetaker is my favorite onion for growing from hotbed grown seedlings and for Winter keeping. It is later than many other sorts, however, and for a short season, others, like Yellow Danvers or Southport Yellow Globe may be selected. All can be started from seed under glass and transplanted. This method will be worth the trial with you anyway. When the onions approach the stage of maturity, the tops will begin to fall over and to dry away. I do not practice the plan often recommended, of rolling them down or breaking them over. Even large tops will dry away to some extent after the bulbs are pulled.

Market for Pop Corn.—A Subscriber in Cross Keys, Va., says he intends to raise some pop corn if he can find a market for it. Pop corn is not a difficult crop to raise, and as a market product, like other farm and garden products, it has its ups and downs In one year it may sell well in our city markets, or in local markets, especially before Christmas time, and prove very profitable, in another year it may be hard to sell and leave but little profit to the grower. In our city markets. pop corn is only wanted when a year old. There is not much call for the new crop, usually.

Fish Ponds.—We have another inquiry about stocking a fish pond, what kind of fish to put in. how to feed them, etc. It is a big subject, too big for the garden department. Our friends must read some good book on the subject, like "Fish Hatching and Fish Catching" by Green and Roosevelt, etc.

Manuring Rented Land.—O. L. Olds, Wakeman, O. "I have rented a little place of 2 acres. It looks to me as though the fertility is about worked out of it. The soil responds to good treatment, I judge from the corn stubble where a load of manure was strewn. But I can't get any stable manure. What shall I do for fertility for the two years I am to occupy it? Soil slopes to south; half sandy and half clayey." If at all obtainable at reasonable cost, I would prefer the use of stable manure, even on rented land, especially when I have two years in which to reap the benefit from the application. I would make the manure application all the first year, and use some chemical fertilizers the second year. If organic manures cannot be had, then, of course, we have no alternative, but must resort to the use of fertilizers, including ashes. Sometimes we can get a supply of the latter, whether leached or unleached, clear wood or somewhat mixed with coal ashes. The latter alone are not of much account except to improve the mechanical condition of the soil. If wood ashes can be had cheaply enough, a liberal application will, in most cases, give telling results, but I would, to be on the safe side, also apply superphosphate, as dissolved phosphate rock, or possibly bone meal, if cheap enough. For ordinary farm operations, a few hundred pounds of the superphosphate or bone meal would be sufficient; for garden crops I would want heavier doses, say several tons of unleached wood ashes, and up to 5 or 6 tons of leached ashes with 500 pounds superphosphate per acre, and possibly a few hundred pounds of nitrate of soda. For garden crops under your conditions, I would also make some effort to get a supply of poultry manure for a top dressing. All depends on what chances you have for obtaining all the various plant food materials.

Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Clematis Paniculata.

About many of the older residences is to be found a plant of the old sweet-scented clematis, known as Clematis flammula. It is a highly prized sort, because of its feathery white flowers, which are delightfully fragrant. It is not a strong grower, and in the North it dies back considerably every Winter, more when it is young than it does when it is older. Within recent years a Japanese species, Paniculata, has taken its place, and not undeservedly. Combining the same feathery white, sweet-scented flowers with vivid green leaves, it outstrips the old sort in growth and permanency of its shoots. It is an improvement on the other in every way save one, and this may be but my own judgment, which is, that it is not the equal of the other in fragrance. While undoubtedly sweet-scented, it does not seem of equal strength of fragrance to the other. But it is the one to plant, if you have a choice. Besides the two mentioned, there are two others having the clusters of feathery white flowers, viz., the English one, Vitalba, and our native species, Virginiana. Both are strong growers, but neither of them sweet scented. The Paniculata is the best of all the varieties.

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Horticultural Queries.

Vaccinating Trees.—A man has appeared here "vaccinating" trees against insects, borers, black knot, etc. He puts this preparation under the bark and says the sap in the Spring will carry it over the trees. He charges 5 cents per tree. Can you give any information regarding it?

Yarmouth, Me. J. D. CLEEVES.

No, I cannot give you any information regarding this. As it strikes me, I would let no one tamper with my trees. The inserting of a something under the bark will cause a scar to form there. Just what the sap would do with any foreign substance it is hard to say. As it is, a tree has the power of selecting what particular food it requires from the soil, and if possible to introduce a foreign substance to it in the way of "vaccination," the results would be in doubt. Considering the enormous amount of water a tree will lift from the soil in a day, what would be introduced through the bark would hardly have an effect either way. The application of Bordeaux mixture to the root of trees is not altogether unknown now, but it is to kill outside fungi, and not used with an idea that the roots will take it up with its crude sap.

Painting Fruit Trees.—What kind of paint is best to paint fruit trees with to keep rabbits from gnawing the trees, so as not to injure them? MARY A. MAXWELL.

Mont Serrat, Mo.

The very best thing, and the cheapest in the end to keep rabbits and mice from gnawing trees, is to buy wire cloth, such as screen doors are made of, 2 feet 6 inches wide. Cut it into strips wide enough to encircle the tree and to allow for expansion of the tree for some years. Roll these strips around a round stick to get them tube shaped, then slip them around the trees, an inch or two below ground if the ground is not frozen. These strips can be taken off in Summer, and with care will last for years. They are easily put on and taken off, and in the end will cost less and be more satisfactory than grease. Each strip need cost but 2 or 3 cents; and you would be better pleased by using this than by any other plan.

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Horticultural Notes.

Flowering Shrubs. — Flowering almonds, peaches and plums are all double flowered, and they are among the most welcome flowers of Spring. None of these are supposed to bear fruit, though the peach sometimes does.

Violets.—The common sweet scented violet is from Southern Europe, and is known as viola odorata. It is singular that all but one of our native sorts are scentless. This one has small, white flowers, and in botanical works is called viola blanda.

POULTRY.

This department is under the editorial charge of A. F. Hunter. All letters, inquiries and requests should be addressed to him at the Practical Farmer office, P. O. Box 1317, Philadelphia.

Poultry Queries.

Brooder House Questions. — J. W. Norwood, Martel, Tenn. writes: "I have a 360-egg Cyphers incubator, and a 4-section Cyphers brooder, heated with hot water pipes. Out of the 360 eggs I tested out 60 on the 10th day. Of the remaining 300 I will probably hatch 250. My brooder, conisting of 4 sections 3 feet wide each, will keep these for 3 or 4 weeks, and after that time the chicks will have to be moved to make room for the next hatch. This moving will take place about January 1st. My second brooder house, into which they are to be moved, is 48 feet long and 12 feet wide. The walls are two thicknesses of inch boards, with tarred paper between. The house faces the south and is on the south side of a hill. It has glass windows in the south side. The roof slopes both ways, and is guttered on south side. It has a loft overhead and the loft has 6 inches of sawdust on floor. I have no heating arrangements for it and no divisions in it. Nothing in it, in fact—just the shell of the house—earth floor, perfectly dry. What I want you to tell me is how to equip this second brooder house to receive the little chicks at 3 or 4 weeks of age, about the 1st of January. I can't buy hot water fixtures, and don't know that they are necessary. Martel is 20 miles west of Knoxville, on the Southern Railroad, and our Winters are mild; but I have seen the snow knee deep and the mercury 20 degrees below zero on the 1st of January; and a blizzard from the north or northwest usually brings us one 'spell' of zero weather each Winter." You havn't time now to equip the second brooder house wih hot-water heater and pipes, and, indeed, in your climate you can do very well without it. If you will put two stoves in the brooder house, say 8 or 10 feet in from each end, you can keep it warm enough for most weather very easily, and if a zero spell comes you can "tend the fires" one or two nights without great hardship. If you had to do it for several weeks it would be tough; but chicks four weeks old need only about 75 degrees of heat, and you can easily manage that with two stoves. The stove pipes can be run out through pipe holes in a galvanized iron pane to fit your sash; if you run them up 6 or 8 feet support them by wire stays. You will need to surround the stoves with a wire netting "shirt" to keep the chicks away from them, and had better divide the house into about six pens with simple partitions; the chicks will grow better in small flocks than if all running together.

I doubt if you will get 250 chicks from the 300 eggs left in the machine, unless you are a better tester than most beginners. Winter eggs almost invariably are weak and hatch poorly, but if you had but 60 absolutely clear and dead germs on the 10th day you should get, "by rights," about 240 chicks, as the conditions with you there in Tennessee are more favorable than with us further north, and as your hatch is of November eggs you may do better than I expect. With your favorable conditions there in the Central South it is a surprise to me that you people don't make a point of good, hatchable eggs for incubators in the Fall and early Winter. Northern poultrymen would gladly buy thousands of such eggs—if they only knew where to get them. Get the eggs and advertise that you've got them, and you can get the trade.

Wants Winter Layers.—J. P. Reid, Bluff, Wash., writes: "I want to have pullets start laying in October and keep on laying during Winter. Can I have them, if so how? I want pullets to start laying in the Fall and then I want to sell them the following May. I am told Leghorns start early to lay, but butchers do not care to buy them, they are so small. I have White Wyandottes, but they are only commencing to lay at 9 months old; they have had the best of care but are only now coming to maturity. I read if I hatch earlier than February-March, the pullets will moult like old hens. Would a cross by Leghorns on Wyandottes give early layers that could be marketed the next Spring? Is there any breed that will fill this bill?" Leghorns should be fully mature and laying at five months old, and White Wyandottes should be fully mature and laying at six months old. If your Wyandotte pullets were just beginning to lay at nine months old the fault is yours—you didn't "feed for growth." You are right about pullets hatched too early commencing to lay early and then moulting; but if you will hatch Wyandottes the first half of April and keep them growing they will begin laying in October and lay right along. A cross of Leghorn-Wyandotte will mature earlier than straight Wyandottes, but will be poor sellers when you try to market them in the Spring; you'll do better in the long run if you stick to White Wyandottes. Breed from early and prolific layers and feed the chickens for growth.

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Green bone will certainly make hens lay. I have fed it for a long time and noted its effect. I have sometimes been obliged to discontinue its use and have always observed a falling off in the number of eggs laid. Green bone at a cent a pound is cheaper than grain and far more satisfying. Forms or preparations of animal food for hens put in a condition for keeping any length of time may contain all the elements necessary in a hen food, but they are not so easy to digest as the fresh article. Preserved foods are never so healthy as the fresh.—E. L. Mitchell, Intervale, Maine, in New England Farmer.

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To "break up" a cold, take Jayne's Expectorant.

AN OBJECT LESSON

In a Restaurant.

A physician puts the query: "Have you never noticed in any large restaurant at lunch or dinner time the large number of hearty, vigorous old men at the tables; men whose ages run from 60 to 80 years; many of them bald and all perhaps gray, but none of them feeble or senile?"

Perhaps the spectacle is so common as to have escaped your observation or comment, but nevertheless it is an object lesson which means something.

If you will notice what these hearty old fellows are eating you will observe that they are not munching bran crackers nor gingerly picking their way through a menu card of new fangled health foods; on the contrary they seem to prefer a juicy roast of beef, a properly turned loin of mutton, and even the deadly broiled lobster is not altogether ignored.

The point of all this is that a vigorous old age depends upon good digestion and plenty of wholesome food and not upon dieting and an endeavor to live upon bran crackers.

There is a certain class of food cranks who seem to believe that meat, coffee and many other good things are rank poisons, but these cadaverous, sickly looking individuals are a walking condemnation of their own theories.

The matter in a nutshell is that if the stomach secretes the natural digestive juices in sufficient quantity any wholesome food will be promptly digested; if the stomach does not do so, and certain foods cause distress one or two of Stuart's Dyspepsia Tablets after each meal will remove all difficulty because they supply just what every weak stomach lacks, pepsin, hydrochloric acid, diastase and nux.

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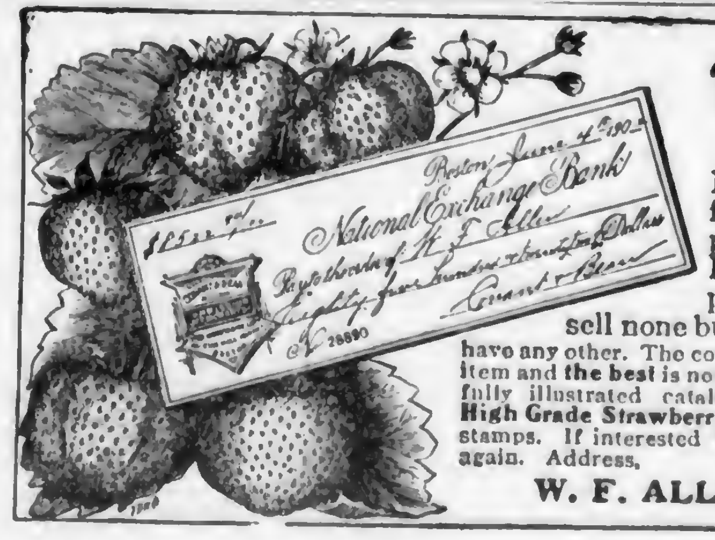

THIS CHECK
and several smaller ones

I received the past season for **Strawberries** (not plants). That was because I have only **the best.** It pays to get **the best.** I sell none but **the best.** I can't afford to have any other. The cost of plants is comparatively a small item and **the best** is none too good. I will send my beautifully illustrated catalogue with lithographed covers of **High Grade Strawberry Plants** by return mail for two 2c stamps. If interested send to-day. This will not appear again. Address,

W. F. ALLEN, Salisbury, Md.

The Practical Farmer.

FOUNDED IN 1855
Published Weekly by The Farmer Co.
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PROF. W. F. MASSEY, Editor.

Philadelphia, January 10, 1903

WE are informed by the business management that some 3,000 names of those whose subscriptions expired in December and who failed to renew promptly, were cut off from the subscription list. Doubtless the large majority of these will be back on the list in the next few weeks. A prompt renewal would have saved them the loss of several copies of the P. F., and kept the paper regularly before them. We are informed that several thousand subscriptions expire this month, and we advise our friends to consult the address labels on their copies of the paper, and by a prompt renewal, two or three weeks before the date of the expiration, ensure the regular receipt by them, without a break, of the P. F. Attend to this matter at once.

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Poison in Young Sorghum Shoots.

The sudden deaths at times of cattle turned on second crop sorghum shoots have long been a mystery, and we, in common with some others, had formed the opinion that the deaths were due to suffocation by the thin leaves getting plastered to the throat of the animal. But now in the report of the proceedings of the Royal Society of England, W. R. Dunstan and T. A. Henry claim to have investigated the nature of the poison in the young sorghum plants. They show that the young plants when crushed with water produce prussic acid. This, as is well known, is one of the most rapid and deadly of poisons. The investigators show, however, that the poison only exists in the young shoots and is not found in the seed or the older plants. Even in the young shoots the poison does not exist as a free acid but is produced by what is called a hydrolytic enzyme. This is an important matter to stockmen, for many deaths of animals have occurred by turning them, when hungry, on a field of young sorghum. As the plant gets older the damage seems to disappear.

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The Confusion of Common Names.

In some sections of the South the Bermuda is called the "wire grass." In the sandy, piney woods sections the name wire grass is applied to a tall grass that grows all through the open pine forest. This is Aristida stricta, and is no relation of the Bermuda. On the Maryland and Delaware Peninsula the "wire grass" is considered a great nuisance. In the Southern part of this region this wire grass is the true Bermuda out of its proper latitude, but in the northern part of the Peninsula the Bermuda and the Northern quack or twitch grass comes in and is associated with the Bermuda, and the farmers fail to distinguish between them and curse them both as "wire grass." They have a similar habit of spreading by running stems, but the Bermuda is finer in all its parts, for the coarse quack will run straight through a potato, while the Bermuda will not. The quack has a flower head somewhat similar to that of rye grass, while the head of the Bermuda is like the delicate spokes of a little wheel and is more like the head of the crab grass, but finer. But in all the northern part of this region the Bermuda is out of place and can only be a nuisance. Those who want to see Bermuda at its best should see it in Central Georgia, where it fairly takes the place that blue grass has in Kentucky. This confusion in common names should be corrected and the name wire grass be left to the Aristida of the piney woods, which differs from other grasses in its dry nature, as it will burn like tinder in the height of its Summer growth.

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Manure in Winter.

Do you think that it improves the manure to keep it in the barnyard all Winter? Will it not lose as much or more there than in the field? In fact, we know that it will lose more, and that what gets away from you there is gone, while what washes out on the field is there to feed the crops next Summer. Did you ever fully realize the great power that a clay loam has for holding on to plant food till some plant comes for it. Even on a steep hillside there is far less loss than some imagine. We once began to spread manure on a steep hill, beginning at the top. When we had gotten two-thirds of the way down we stopped spreading with the idea that enough would wash down the hill during the Winter to make the lower part equal to the upper. In the next season's cropping we could not see that the manure had any effect 2 feet below where we stopped. The soil had simply gotten it and held it. Whenever the ground is frozen enough to bear a team it is best to get the manure out and spread it where the corn is to grow next Summer. It is losing every day at the barn, no matter if you have it under cover. In fact, it needs closer attention under cover than outdoors to prevent loss of nitrogen. Then in the South there is hardly a day except when the soil is too wet, that the manure cannot be hauled out and spread. If you will watch the chance you can find plenty of opportunity to get the manure on the corn land during the Winter. This getting out of the manure in Winter on the sod to go in corn is one of the chief reasons for not breaking the sod in the Fall, unless put in order and sown early to rye, on which the manure may be spread when the land is hard frozen, and a big start made towards getting a corn crop of increased bulk next Summer. Of course, we can fully sympathize with those who live where Winter is so long and Spring is so short that it is necessary to get all done in the Fall that is practicable. But the manure even on the top of land Fall plowed for corn will not be in a bad place even in a cold climate. Years ago the New Hampshire Experiment Station proved that manure spread in the Fall and left lie till Spring made more corn than manure spread at same time and plowed under at once, or manure spread in the Spring and plowed under when the Fall spread manure was plowed down. Making all allowances needed for climate and crops it will be found that there is far less loss of manure spread on the land than there is in the barnyard.

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Buying Fertilizers.

A correspondent in the Query department recently asked some questions in regard to commercial fertilizers which show that there is a very general misapprehension among farmers in regard to these things. Our friend wanted to know which was the most exhaustive to the vegetable matter in the soil, acid phosphate from dissolved rock or acid phosphate from bone black. He further wanted to know whether carbonate of lime makes the vegetable matter available more quickly than acid phosphate and whether the crops grown with commercial fertilizers are as nutritious as those grown with barnyard manure. It is evident from other correspondence that this farmer, whose questions we answered briefly in the queries, represents the ideas of a large class of farmers. He evidently regarded the acid phosphate as a sort of stimulant to increase the production of crops by rendering matters available that are already in the soil. Acid phosphate, whether from rock or bone black is simply one form of the essential plant food that crops must have in order to grow. No plant can grow at all if it is entirely absent from the soil. Hence, the use of acid phosphate is simply to supply any deficiency there may be in the soil of available phosphorus, which plants must have in abundance to make the best crops. To ask which is the most exhaustive, bone black phosphate or rock phosphate is equal to asking whether bread in rolls or bread in light-bread loaf will starve a man quickest. Then he wanted to know which would make the vegetable matter in the soil available quicker, lime or acid phosphate. Lime, not being to the same extent, plant food, or rather not usually being needed as plant food to the same extent that phosphorus is, has a use outside of this, and is more properly a stimulant, since it tends to hasten the nitrification of the organic matter in the soil and to promote the activity of the micro-organisms that are engaged in preparing nitrates for plant food. It has also a mechanical effect of value on most soils. But the last query as to the nutritiousness of plants grown by the use of commercial fertilizers shows still more plainly the misapprehension of these plant foods. The only difference between stable manure and commercial fertilizers is that the fertilizers present the same plant food that the manure does, but in a more concentrated and more readily available form, and when properly made are a better balanced manure than stable manure, which usually has an excess of nitrogen in proportion to its phosphoric acid and potash. The only additional value the stable manure has which commercial fertilizer lacks is the organic matter tending to increase the humus in the soil, and hence to increase its capacity for retaining moisture. Hence, when plants are fed with the readily available food in the commercial fertilizers they get the very same things they would get in stable manure and usually in a more available form. A well grown plant has the same nutritive value whether the food is supplied from one source or the other. In brief, commercial fertilizers are simply plant food and so is stable manure, and the plant food in each is the same thing. The vegetable matter in the soil is not exhausted by acid phosphate, but by hard cropping and a neglect of a good rotation to keep up the humus making material in the soil. You can usually buy the needed plant food more cheaply in commercial fertilizers than you can buy it in stable manure, and if they are used as they should be to increase the growth of the legumes that feed the soil and the stock at the same time, they are fully as valuable as stable manure since the organic matter they produce in the legumes is already spread in the soil without hauling, and land can be improved much more cheaply through the use of fertilizers in the proper manner than by the purchase of stable manure. Still, this is no argument against the making and using of all the home-made manure we can.

The Cream of the Bulletins.

Agricultural Experiment Station of the Agricultural College of Colorado, Fort Collins, Col. Bulletin No. 61. Bromus Inermus. By F. L. Watrous, H. H. Griffin and J. E. Payne.

The great numbers of inquiries which come to our office in regard to the value of this grass induces us at this late period to review this bulletin though published over a year ago. It spreads by creeping rootstocks or underground stems. It has been tested at a number of the Stations from Canada and North Carolina to Mississippi and California, and it is recommended for dry, sterile, light or sandy soils. It was a dead failure at the North Carolina Experiment Station. It was first grown in Colorado at the Arkas Valley Sub-station in 1892. In 1894 the home Station at Fort Collins began investigations as to its value and sowings have been made on a variety of soils. On heavy clay with scant irrigation, on the same soil with plentiful supply of water, on light soil above irrigation and on heavy soil similar to gumbo, with and without watering, the grass succeeded, and a thick and heavy sod has been formed, producing an abundance of forage of rather coarse quality, but readily eaten by horses, sheep and cattle. It has not made hay enough to be thought valuable for that purpose, but sown with alfalfa it promises to be valuable for horses. It is thought equal to orchard grass and perhaps to timothy. It is inferior to Colorado blue stem or buffalo grass, but will make up in quantity what it lacks in quality as compared with these. It makes a very heavy sod which is hard to break when once formed. The ground to a depth of 6 or 8 inches is completely filled with a mass of matted fine roots, so that the sod turns over in solid slices and remains of so tough a texture that an excessive amount of preparatory work must be done to get the land in order for any other crop. The use of the disk harrow will finally subdue the sod. A fair crop of flax was grown on such a sod. In Colorado its value is as a pasture grass, and it is so far the only tame grass that can to any degree take the place of the original prairie sod and pasture grasses of the plains now disappearing. Hard pasturing does not affect the sod. After being gnawed to the ground by sheep it shows growth in a week after they are taken off, even in late Fall when the nights are frosty. It makes pasture in the Spring two to three weeks earlier than any other grass of that section. Many complaints have been made of the worthlessness of the seed imported from Europe. At the Kansas Station not over 10 per cent. grew, and the same is said to be the case in Colorado as it was in North Carolina. But it seems to come much thicker the Spring after sowing than its appearance in the Fall would indicate. This may be due to the seed lying dormant or to the extension of the root system between Fall and Spring. Hence, it is not well to be discouraged over a seeming light stand the first season. For Spring sowing the advice is given to sow early, if without irrigation. With irrigation it may be sown at any time during the growing season. It needs a well pulverized seed bed such as would be made for the best success with wheat, and should be covered 1 or 2 inches deep. The seed are so light and chaffy as to be difficult to sow with a drill, so it has been sown broad cast and harrowed in. The condition of the soil is of more importance than the manner of sowing. The Station does not recommend the grass for indiscriminate sowing. For permanent pasture on dry lands it will do. Fifteen to twenty pounds of seed per acre are advised. When a good stand is had seed may be saved plentifully. Various experiments at both the home and Sub-stations show that the grass is, in Colorado, a very valuable permanent pasture grass, and it may be so found on similar lands and under similar conditions elsewhere. Whether it is adapted to the Southern States or not is still problematic. The chances are that for the same purpose for which the brome grass is useful the Bermuda will be found better adapted to the conditions in the cotton belt. But if it succeeds in the South it may add a permanent pasture grass that will be useful during the cool season of the year, when the Bermuda is dormant, since it is a far hardier and earlier starting grass. If, as the Colorado bulletin shows, it grows there after the nights get frosty and starts three weeks earlier in Spring than other grasses, it would evidently in the cotton belt make a Winter pasture grass of value, if it is found to thrive there. At any rate, it would be wise to experiment with it for this purpose, keeping in mind that it is not a heavy hay making grass. The writer has seen in New Jersey a very fair growth of this grass that would probably make a ton per acre of hay right alongside of other grasses that would probably make twice or more that amount.

Our Business Corner

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A Notable Success.

Our Winter Subscription Campaign of Blocks of Six is proving a most gratifying success. These six-name clubs are coming in by every mail, from the North, South, East and West. In many cases our friends are duplicating them four or five times over. It is the only way in which the P. F. can be obtained at less than the subscription price of one dollar per year. In these clubs of six, three dollars pay for six yearly subscriptions with a premium to the club raiser; and those to whom a sample copy of the P. F. is shown, backed by the endorsement of the person showing it, are not slow to perceive the big bargain that is offered them. We thank those of our friends who have sent in these clubs. They are helping most effectively in a good cause, spreading the gospel of good farming preached by the P. F. But we want every subscriber of our paper to constitute himself or herself a club raiser. There are thousands of them from whom we have not heard, but who could, and ought to, send us at least one of these clubs. In fact, we ought to have at least one club of six from every post office to which a copy of the P. F. now goes, and we can have it with just a little work from all our friends. We have gone into the new year with the largest paid subscription list in the long history of the P. F. We owe it to the unselfish labors of our friends, and want those who have not yet given a helping hand to do so now. See what we have to say in our announcement on page 409, Dec. 27th number of the P. F., and make up your mind that you will have at least one of premiums which we give for a club of 6. We have selected the premiums with special reference for their utility, and every subscriber will find in them something he or she wants. The P. F. during 1903 will be the biggest dollar's worth of agricultural helpfulness ever published in a farm paper. We should like every friend to help us make it still better than we have planned by sending in at least one Club of Six.

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The P. F. . . N. Y. Thrice-a-Week World	$1 $1	1.25
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The P. F. . . Chicago Weekly Inter-Ocean	$1 $1	1.25
The P. F. . . The Commoner. .	$1 $1	1.50

COMMERCIAL

Philadelphia, Jan. 3, 1903.

WHEAT.—

Exporters showed little interest, but offerings were moderate and prices ruled steady. The world's visible supply as calculated by Bradstreet's showed a decrease of 2,185,000 bushels.

No. 2, red	73¼@	73½
No. 2, Penna. and Del.	77¼@	77½

CORN.—

Spot No. 2 corn was wanted to fill December contracts and prices advanced 1½c. per bushel. The lower grades, however, were in ample supply and dull.

No. 2, yellow	54½

OATS.—

Offerings were light and the market ruled firm, with a fair local trade demand.

No. 2, white clipped	40

BUTTER.—

Receipts, 980 tubs and 926 boxes. Receipts of Western creamery were very light and the market ruled firm, with a good demand for extras, offerings of which were not equal to requirements. As a consequence, buyers gave considerable attention to fine June creameries, and exceptional sales of strictly fancy qualities of the latter were reported above quotations. Ordinary grades of both fresh and held creameries were dull. Ladles were slow of sale, as offerings were mostly of unattractive quality. Prints ruled firm, with supplies closely sold up.

Best prints	30	@	33
Firsts, creamery	27	@	31
Seconds, creamery	23	@	28
Ladle packed	17	@	20

CHEESE.—

Full cream, choice, small	14		
Full cream, fair to good	13½	@	13¾
Part skims	10	@	12

LIVE POULTRY.—

Fowls, per lb.	11½	@	12½
Spring chickens, per lb.	11	@	11½
Ducks, per lb.	13	@	14
Geese, per lb.	12	@	13
Turkeys, per lb.	13	@	15

DRESSED POULTRY.—

Receipts of fowls and chickens were more liberal and the market was a shade lower under a light demand and increased pressure to sell. Turkeys were in moderate demand. Ducks and geese were scarce and firm. Buyers gave preference to poultry packed in new boxes, which commanded a premium over stock packed in barrels.

Fowls, per lb.	11½	@	13½
Chickens, per lb.	12	@	15..
Turkeys, per lb.	15	@	20
Ducks, per lb.	15	@	18
Geese	11	@	14

EGGS.—

Receipts, 3954 crates. Receipts of new laid eggs were very small and demand promptly cleaned up all offerings of this description at firm prices. Much of the supply consisted of mixed held and fresh stock, which sold slowly at irregular prices. Refrigerator stock was dull aside from strictly fine Spring-packed eggs, which were in fair demand and steady. The Butter and Egg Board of the Produce Exchange adopted a resolution that all sales of eggs on the Board after January 1st shall be at "mark."

Nearby fresh	28	@	29
Western, choice	28		

FRESH FRUITS.—

Receipts of apples and cranberries were moderate and the market ruled firm, with a fair demand for choice fruit. Oranges were quiet and steady, with moderate offerings.

Apples, per bbl.	1.50	@	3.00
Cranberries, Jer., per crate	2.50	@	3.00
Cranberries, Cape Cod, bbl.	10.00	@	12.00
Oranges, Jamaica, bbl.	4.00	@	5.00
Oranges, Fla., per box	2.25	@	3.35

VEGETABLES.—

The market for white potatoes was quiet but steady under moderate supplies. Sweets ruled firm under light offerings and a fair demand. Onions and cabbage continued plentiful and dull.

White potatoes, Pa., per bu.	65	@	68
White potatoes, West., bu.	63	@	65
Sweet potatoes, Jer., bas.	25	@	55
Cabbage, per ton	7.00	@	10.00
Onions, per bbl.	1.75	@	2.00

BEANS AND PEAS.—

The market for beans was a shade firmer under small supplies and higher country advices, but trade was quiet. Green peas were quiet and steady:

Marrows, H. P., per bu.	1.75	@	2.70
Scotch peas, per bu.	1.75		

HAY AND STRAW.—

Receipts, 270 tons of hay and 14 cars of straw. Supplies of desirable grades were small, and the market ruled firm, with a good demand.

Timothy, choice, large bales	18.00	@	18.50
Straw, straight rye	14.50	@	16.50
Straw, tangled	11.50	@	12.00
Wheat	10.50	@	12.00
Oat	9.50	@	11.00

FEED.—

Feed was firm, with a fair demand and light offerings.

Bran, bulk, Winter, per ton	18.50	@	19.00
Bran, sacked, Spring	18.50	@	19.00

COTTON.—

Middling upland	8 9-10

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle about steady.

Extra steers	5¾	@	6
Good steers	5¼	@	5¾
Medium steers	4½	@	5
Common steers	3¼	@	4

CALVES.—

Veal calves firm and active.

Extra calves	8¾	@	9½
Fair to good	7	@	8½
Poor and common	5½	@	6½
Grassers	3½	@	5½

HOGS.—

Hogs active.

Fat hogs, Pa., Del. & Md.	6	@	8¼
Fat hogs, Western	8¾	@	9

SHEEP.—

Sheep and lambs higher.

Sheep, extra wethers	4¼	@	4½
Sheep, good	3½	@	4
Sheep, medium	2½	@	3¼
Sheep, common	2	@	2¼
Lambs	4	@	6¼

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New York, Jan. 3, 1903.

WHEAT.—

No. 2, red	79⅝
No. 1, Northern Duluth	86⅝

CORN.—

No. 2	58	@	59½
No. 2, white and yellow	60		

OATS.—

No. 2, white	38½	@	40½

HAY.—

The market retains all of its holiday quiet. Prices are against wholesale buying, and consumers are piecing themselves along at the present full rates, and with the moderate receipts be quoted above average feeders' recent estimate of horse keeping expenditure. Good useful undergrade hay has the outlook for better paying prices than have ruled for the former for several seasons. Many of them have to try the merits of grade of hay that they have not been accustomed to handle, as it looks as if we are about to have a lower run of hay than has been marketed for a number of previous seasons.

Prime, large bales, 100 lbs.	80	@	1.00

BUTTER.—

Creamery, extra	28	@	28½
Creamery, firsts	26	@	27½
Creamery, seconds	23½	@	25
State dairy tubs, fancy	26		

CHEESE.—

Receipts for the week, 21,010 boxes; exports, 11,251 boxes. Notwithstanding we are just at the close of the old year, when trading is naturally expected to rule very quiet, we have had a very fair movement, including quite a good many lots purchased but not to be charged up until after January 1st. With stocks comparatively moderate and in few strong hands, the situation is certainly firm and healthy, with prices still showing a gradually hardening tendency. At the close 14c. is promptly obtainable for Fall made cheese, and occasional sales of specially desirable small colored are making at 14¼c. Late made colored cheese has had fair attention, and is firm at 13¾c. White cheese, both Fall made and late made, has not been in as good demand as colored, and the feeling is not quite so firm as on the latter. Exporters have been in want of cheap grades, but are finding such very scarce, though a line of about 1,300 boxes that had been damaged in a late fire at Scranton, Pa., was secured by exporters, thought to have been at about 11½c., though exact particulars regarding quality and price were kept strictly private. Skims have been only moderately active, but firmly held for all grades. Cable, 59s for both colored and white.

Full cream, small	14		
Full cream, choice	13½		
Light skims, small, choice	12		
Light skims, large, choice	11¼	@	11½

LIVE POULTRY.—

Receipts for the week, included 23 cars by freight and about 3 cars by express. There has been a fair demand for prime heavy fowls, and, with comparatively moderate receipts, toward the close the feeling is firm and prices higher, but medium grades of both fowls and chickens have ruled dull and irregular. Old roosters a trifle firmer. Turkeys have been in moderate supply all the week and prices firmly held, occasionally exceeding top quotations. Prime lots of ducks and geese in good demand and firm. Live pigeons in lighter supply and a shade higher.

Spring chickens, per lb.	10	@	11
Ducks, per pair	70	@	1.00
Geese, per pair	1.25	@	1.62
Fowls, good to prime, per lb.	12	@	13
Turkeys, per lb.	14	@	15

DRESSED POULTRY.—

Receipts for week, 21,741 packages. The market generally has been in a very unsatisfactory position. Supplies have been liberal of most description, quality very irregular and general trading quiet. Strictly fancy turkeys have generally been held under limits of owners and gone direct to freezers when the quality offering has been attractive. There has been some speculative demand for fancy lots at 18c., but few lots on the market good enough to bring that price, while large lots have arrived more or less out of condition and have had to sell from 17c. down to 13 and 14c. Chickens and fowls have been in very liberal supply, quality generally irregular, and with a slow demand prices have ruled weak and unsettled. Really fancy fowls and chickens have been in small proportion, but demand limited. Ducks in moderate supply, but demand less active since the holidays and prices easier. Geese in fair supply and lower. Tame squabs about ready.

Spring turkeys, per lb.	13	@	18
Spring chickens, per lb.	18		
Spring geese, per lb.	10	@	13
Fowls, good to prime, per lb.	10	@	12
Squabs, poor to prime, doz.	1.75	@	2.75

EGGS.—

Receipts for week, 20,548 cases. There has been no material change in prices during the week. Receipts have fallen off materially, and there has been some reduction of previous accumulation in store, but there is still a good deal of stock unsold, and dealers have had no trouble in supplying the moderate necessities of their trade at about previous figures. Recent reports of cold weather in the country have, however, strengthened the feeling of the market, and the tone closes very firm on all desirable goods. Refrigerators are moving quietly, but are held with some confidence, and the light business reported is at unchanged prices.

State and nearby	28	@	33
Western	20	@	26

GREEN FRUITS.—

Receipts of apples for week, 28,436 bbls. Apples have continued in liberal supply and prices low and without improvement some few local storage apples showing very nice quality have worked out from 50c. and $1.00 above quotations, but many of the local storage apples have not kept well and have little value. Pears running down in quality and with demand limited prices rule low. Grapes mostly poor and dragging at low and irregular figures. Cranberries have continued in active demand and firm, with prices slightly higher. Strawberries in light receipt, but receiving very little attention and prices barely sustained.

Apples, per bbl.	75	@	3.00
Cranberries, per bbl.	6.00	@	11.00
Cranberries, per crate	2.25	@	2.75
Grapes, per case	1.00	@	1.50
Grapes, per bas.	8	@	14
Oranges, Florida, per box	1.00	@	4.00

POTATOES AND VEGETABLES.—

Potatoes, Jer., per bbl.	2.50	@	3.75
Penna. & Western, 180 lbs.	1.50	@	2.00
Sweet potatoes, per bbl.	2.50	@	3.75
Tomatoes, Fla., per carrier	1.50	@	3.50
Celery, Western, doz. bun.	10	@	1.00
Onions, per bbl.	1.50	@	6.50
Cauliflowers, per bbl	2.00	@	7.00
Turnips, per bbl.	65	@	2.00
Spinach, per bbl.	1.75		

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WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.	
XX and above	29@31
X	26@28
Medium	28@30
Quarter blood	28@30
Common	25@26
UNWASHED (light and bright.)	
Fine	18@21
Medium	21@22
Quarter blood	21@22
Coarse	18@20
UNWASHED (dark colored.)	
Fine	15@16
Fine medium	16@18
Medium and quarter	18@19
Coarse	16@18
COMBING AND DELAINE FLEECES.	
Washed fine Delaine	31@33
Washed medium	29@31
Washed low	29@31
Washed coarse	26@27
Unwashed medium	22@24
Unwashed quarter blood	22@24

The Home Circle.

Edited by Velma Caldwell Melville, San Prairie, Wis., to whom all communications relative to this department should be addressed.

Editorial Chat.

While we do not take much stock in the oft excitement over a "mad dog," we do know that such a thing as hydrophobia exists; and in case it is only a scare, no harm could come of pasting the following in one's note book and trying it: "Take immediately warm vinegar or tepid water and wash the wound very clean; then dry it and pour upon the wound a few drops of muriatic acid. Mineral acids destroy the poison of the saliva and its evil effects are neutralized."

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Ellen Kinney, Brockport, N. Y., wishes us to announce to those who so kindly furnished material for a name quilt that she has it done and her mother has quilted it. The poor girl is very happy over it, and extremely thankful to all who donated pieces, thread, money, etc. She never tires in her gratitude for what the H. C. has done for her.

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"If you've had a kindness shown,
Pass it on;
It was not meant for you alone."

And so it seemed to us, as the words of Mrs. Robert Burdette, who spoke before the Woman's Club of Madison recently, sank into our heart, surely we ought to pass them on. Many of you have heard, or will hear her speech entitled "Unity and Diversity," but many more will not, and one might hear it many times and not then have mined its entire wealth. We can quote but briefly, but enough it seems to us, to give to the world our creed: to win all good women to club organization, and to silence forever the critic. And remember this is no idle talk; everywhere good work is being done, work that speaks for itself. There is no town so small, no neighborhood so thinly settled, but a club would be a veritable Godsend, each working out its own destiny in the place where it is planted. Mrs. Burdette says: "I would that there were a new Handel to create a new Messiah of thanksgiving that 'unto you a club was born.' The women's organizations are a living factor of the world's progress of to-day. The movement dates from the close of the rebellion when the blacks were emancipated and given suffrage, but women were debarred. From the woman's suffrage movement developed the woman's club. At first it was considered a fad. The evolution of the 'club woman's husband' had not yet begun. But lo! a great army of organized women has been merged into an altruistic body, not alone in our own country, but in lands governed by emperors and kings. The value of club life to the individual woman has been manifold. Just as the babe develops its age by discovering the use and purpose of little hands and feet and other members of the body, so the club woman discovers her true self by intercourse with intelligent women. She has learned to know herself, her weaknesses, and by broader culture to increase the circumference of her circle.

"We have not always comprehended what our lives are for, the great possibilities and opportunities before us. A woman's influence is as great as her intelligence and through the broadening tendency of this club life she becomes a better companion to her children and a closer comrade to her husband. No woman has any right to undertake any work that does not emanate from the home and return to the home. I would sound the bugle call of this great organization, and declare that God has committed to our keeping the care of our future citizen. First, those in our homes, then those in less favored homes then the little white slaves—the child wage earners in factories and mills. This work has been done and will continue to be done through better home conditions; through educational influences, by the establishment of kindergartens and manual training, and domestic science schools; by more attractive and sanitary school buildings, through industrial schools, through the establishment of juvenile courts, through all that tends to make the future citizen a law-abiding, industrious human being. And because there is so much to be done for the citizen of the future that can be reached only through public sentiment promulgated—by a moral atmosphere which cannot be established by the reading of papers nor created by resolutions, yet through all the diversified individuality of womanhood everywhere, there can be a unity of personal standard that shall say to the world, 'The women who wear this badge stand first of all for the sacredness of true womanhood.' It shall say, that with all of our womanly powers we will demand and urge the more sacred holding of the marriage tie, that it may not be so lightly assumed, nor so easily broken. To the fact that in the growing spirit of commercialism, marriage is coming to be considered a business contract rather than a holy sacrament, is due more than half the heartache in the world of womanhood, and we women who live in loving and happy homes are not altogether innocent. By the very virtue of our happiness in home and loyal husband, we are our sisters' keepers. It is an appalling fact that divorces in the United States are increasing three times as rapidly as the population. If that ratio continues, by the close of the twentieth century, separations by death will be fewer than separations by discord. Therefore let us not neglect while we surround these little ones with an atmosphere of purity, to establish a higher standard in their hearts. Let us say to our sons as we do to our daughters, 'There is but one and the same standard of morality for the man and the woman.' One more responsibility we hold for the future citizen which often we fail to recognize. What is this luxurious age in which we live going to leave him for his heritage, and how far are we responsible for it? Women cannot stand aside in this day of commercialism and money getting, and say: 'We have no part in it.' Men are beside themselves with the money-madness. But why? Is it always for mere love of money? I do not believe it. Go home today to your wage earner—your bread winner—and say: 'I am going to live more simply. I am going to be happier with less show and more comfort. I would far rather have your companionship than your money.' Say that, and live that, and see how many more hours an emancipated man, glad to be rid of some of the worry and strain of business, will spend with yourself and the children. Last year 625 men in business life went astray, fled from the home and fell into the hands of the law, as embezzlers, robbing employers and business associates of twenty-five millions of dollars, stealing to keep up expensive homes, and keep the wife and daughters in 'good society'! 'Good society'—with a wife in the social swim and a husband in the penitentiary! This mammon worship!

"I was asked once what thought I could give that would be the most helpful to women. My answer was that they should have the courage to live simply. Oh, women of America, if we should do nothing else than live simply, and teach the coming citizen that he had better be pure and purer, that manhood is worth more than moneyhood, all the world would rejoice that, like Esther, the beautiful and womanly, 'we had come to the kingdom for such a time as this'—for the enlargement and deliverance of our people.

"Men will not say—you dare not say—these are 'unwomanly ambitions' for a federation of 750,000 women. They are not 'ambitions:' they are aspirations—inspirations. This, then, we say for this great allied movement of womanhood throughout the world—the one grand, unifying thought that throbs like the mighty heart in a body of many members is this—home-keeping and childhood. I say to you this organization that girdles the globe with noble and inspiring purposes, has been, is, and will be a persistent, righteous, powerful factor in the world's evolution, because its final heart motive is the true exponent of woman's divine gift' of homekeeping and motherhood."

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To the sister who asks if *nom de plumes* are permissable, we reply, certainly, if your true name is enclosed for our benefit.

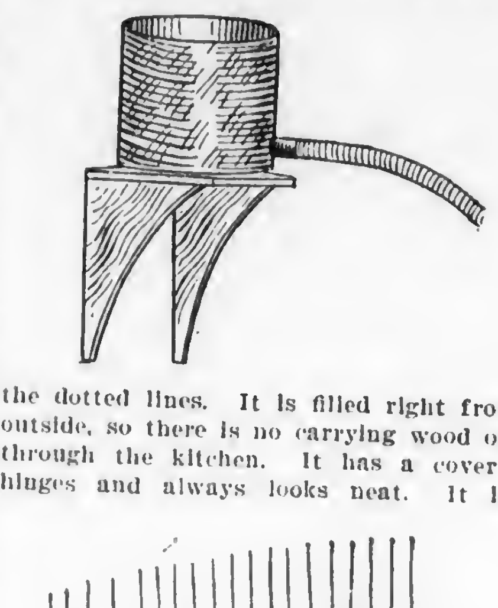
In the Kitchen.

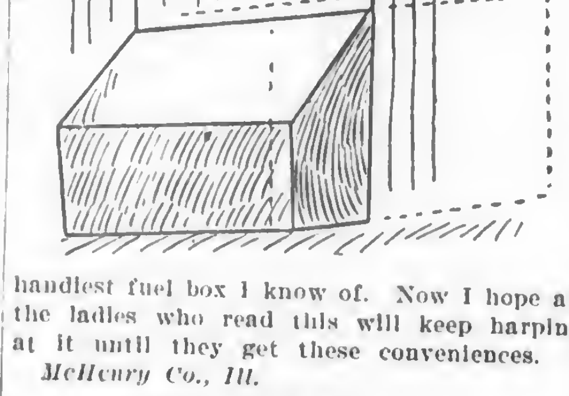
MRS. LEE GROVER.

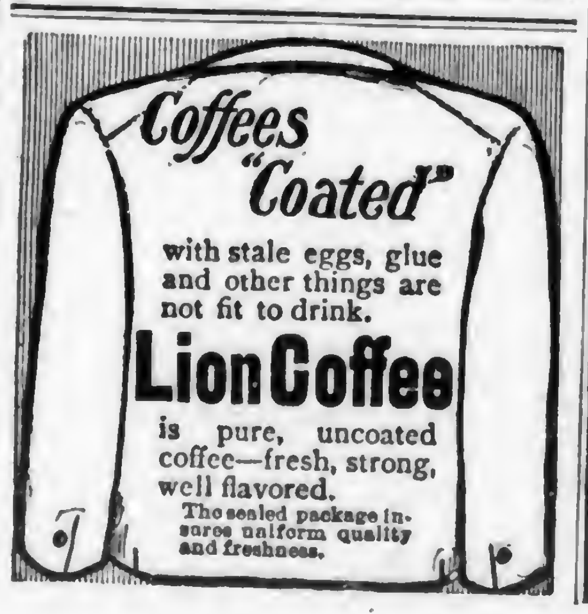
Water and fuel are the two principal articles in the kitchen. To have them handy and convenient saves nearly one-half the labor. The enclosed illustration nearly explains itself. The water tank is made of galvanized iron to hold 15 or 20 gallons, and has a spigot at the bottom on which is fitted a short piece of rubber hose. The teakettle, or anything else on the stove, can be quickly and easily filled without spilling any on the stove or floor. The shelf on which the tank sits should be a little higher than the stove and fastened securely to the wall. It can be filled with a force pump or carried in pails.

The fuel box is made in the wall near the stove and extends out in the wood shed or coal bin, back of the kitchen, as shown by the dotted lines. It is filled right from the outside, so there is no carrying wood or coal through the kitchen. It has a cover with hinges and always looks neat. It is the handiest fuel box I know of. Now I hope all the ladies who read this will keep harping at it until they get these conveniences.

McHenry Co., Ill.







Coffees "Coated" with stale eggs, glue and other things are not fit to drink.
Lion Coffee is pure, uncoated coffee—fresh, strong, well flavored.
The sealed package insures uniform quality and freshness.

Our Book Table.

It is evident that the author of "The Master" not only carefully laid his plot, but became himself thoroughly acquainted with each character before introducing him or her to the public; and the manner in which each is sustained throughout makes it, in diction alone, a masterpiece. Indeed, if our opinion holds for aught, Zangwill himself is the master painter, albeit he wields a pen instead of a brush. Nowhere is this artistic talent more in evidence than in the lengthy conversations which, conducted by almost anyone else, would be prolix. He has the rare gift of being himself each man, woman and child that peoples his pages. He is as recognizable in Tommy, the Indian lad, as in David Strang, the drowned sailor, and, speaking of the latter, it is a trait of a great author to side track, and, in a few brief pages, expose the real man in contradistinction to the man as he appeared. Those who have read "The Master" must have noted this glimpse of the inner man in the second chapter, where Matt and his father were caught by the tide while out fishing. Then and there Matt and the reader see and know the real David Strang.

Then again, the author masquerades as Mrs. Strang, good hearted, loyal to husband and child, while her lips are uttering mad maledictions and threatening carelessly to "throw up the position." Perhaps in passing we may note that humble Abner Preep is one of God's noblemen. Then there is cripple Billy—who has not known just such people. A soul wrecked by a maimed body. But of course the hero, the great character, is Matthew Strang, Jr.—Matt, whom we meet first vainly trying to comfort Billy and appease his angry mother that first cold Nova Scotia night; Matt with his mania for daubing the pictures in the big Bible and drawing charcoal sketches of everybody and everything; Matt, with his strange mixture of child and man mind; Matt, with his intense longing to spread his wings and fly away, yet stubborn adherence to duty and honor as he saw it; Matt amid his brief successes and tedious reverses; the double Matt who went through life as pure as a child and yet forever surrounded, and ofttimes dallying with sin in every form; Matt, the husband of Rosina and the ardent lover of some ideal woman—this ideal personified for one brief space of time by Eleanor Wyndwood; Matt, the intruder in his wife's cabbage befouled kitchen and Matt the idol of a London drawing room, the lion of the art academies, and Matt the final grand master of art, but infinitely grander master of self. And Rosina, poor Rosina! While we have felt righteously indignant at her one moment we have pitied her the next, and, indeed, we should not blame her—she was as true to her ideals as her husband to his, and then she did not know the inner Matthew Strang as the reader is permitted to know him. But hers is, in some respects, a beautiful character—and how like a woman to chide him with neglect and meet him with coldness, while her letters to the old Nova Scotia home were full of his praise, and her little child said she could not sleep nights because mamma cried so. O, the pathos of it all from that first icy night, in the little clearing home near Cobequid village, to the hour when our hero quit Paris, after his meeting with his childhood love, Ruth Halley, and his terrible battle with himself! And it was a terrible battle in which gilded wrong and homely right stood face to face; when a mad infatuation and dull duty fought for supremacy; where three banners seemed waving before him; on one the faded, fretful face of his wife; on another the fascinating one of Eleanor Wyndwood, with her soul thrilling eyes, as she said:

"Come for me next Sunday night at seven—you will take me to dinner somewhere quiet, in this great free Paris. And then—then we can talk over the future."

On the third, and between the others, as it were, was the sweet, womanly countenance of Ruth Halley, and she was saying:

"How proud your wife is of you. What a good woman she must be." And then again: "Goodbye, dear Matt. God bless you!"

And the outcome?

He writes a farewell to Eleanor; he goes home to the sulky Rosina; he gives up society; he intended to give up art. He did give up his grand studio; but, quoting from the book: "From the glooms and trials of the daily routine in this prosaic home, with its faithful but narrow-souled mistress, who knew not what was passing in her husband's mind, nor at what cost he made her happy, and who would not even agree to live in some beautiful country spot which would have softened life for him—from this depressing household, with its unsprightly children, its cheerless pensioner, its querulous cripple resenting the very hand that fed him, he escaped to the little whitewashed studio to find in his art oblivion of the burdens of life. Solitary, silent, sorrowful, strong; not chattering about his ideas and aims; indifferent to fame or the voice of posterity, striving for self approbation and rarely obtaining it, touching and retouching, breaking the rules of the school in obedience to his own genius, he toiled on in his humble studio, seeking the highest, with no man or woman to inspire, encourage or praise. He had been saved from love and happiness, and sent back into sympathy with all that works and suffers. * * * * And yet his life is not all unhappy—work is his anodyne, and there is an inner peace in the daily pain, because it is the pain that his soul has chosen, in willing slavery to his own yoke."

And men call him "The Master."

In a private letter an old editor and publisher once wrote us: "Every acceptable story either leaves a pleasant impression or teaches a lesson."

"The Master" certainly does not leave an impression altogether pleasing. There is too much shadow in the weaving; too much heartache, failure and reality. But there are lessons, lessons. All this the thought of the sympathetic reader, but there is another view, the view taken by the—as Zangwill would put it—"brutal critic," who, with much justice might complain that the tale is too long by one-fourth, and that ofttimes the meaning is smothered in words; that the sentences are so long and complex as to drive Murray, Swinton and all the other grammarians to desperation; that there are so many more bad than good people—politely bad, that is—and that in the whole story there is not one happy marriage and homelike home, unless we may except Abner and Harriet Preep's. We know nothing of the personal history of the author, but one is almost unconsciously led to suspect that either his childhood or manhood home was not the ideal place, and that this fact colored his delineations of other hearthstones. Certain it is that ill assorted marriage was the curse of "The Master's" life from beginning to end; and yet the spirit of the old Scotch Presbyterian ancestors made wedlock binding, and forbade that "what God had joined together" man should put asunder. It is a poor book, however, that provokes no adverse criticism, and then, you know, the hired critic of today, like the hired mourner of old, must do his part whether he feels like it or not. One thing is sure, everyone must read a book for himself if he is to really know anything about it, for the critic is human and when you have read his report you only know how the story looked to him through his glasses. "Many men of many minds," you know.

Right or wrong chimney makes or unmakes a lamp.
MACBETH.
My name on every "right" one.
If you'll send your address, I'll send you the Index to Lamps and their Chimneys, to tell you what number to get for your lamp.
— MACBETH, Pittsburgh.

ABSOLUTE RANGE PERFECTION
Sold for CASH or on MONTHLY PAYMENTS
Your money refunded after six months' trial if Clapp's Ideal Steel Range is not 50 per cent. to 100 per cent. better than you can buy elsewhere. My superior location on Lake Erie, where iron, steel, coal, freights and skilled labor are the cheapest and best, enables me to furnish a TOP NOTCH Steel Range at a clean saving of $10 to $20, quality considered. Freight paid east of Mississippi and north of Tennessee. Send for free catalogues of all styles and sizes, with or without reservoir, for city, town or country use.
CHESTER D. CLAPP, 685 Summit St., Toledo, O.
(Practical Stove and Range Man)

WHY STAY PALE.
A pity to see pale girls stay pale and dull when it is so easy to get Scott's Emulsion.
One of the best things Scott's Emulsion does is to give rich blood to pale girls.
The result of regular doses of Scott's Emulsion is an increase not only in the red color of the blood and in the appetite but in the good looks and bright manners which are the real charm of perfect health.
Send for Free Sample.
SCOTT & BOWNE, Chemists, 409 Pearl St., N. Y.

The "1900" Ball-Bearing WASHING MACHINE SENT FREE
without deposit or advance payment of any kind, freight paid both ways, on 30 days' trial. Unquestionably greatest family labor saver ever invented. Saves time, expense and wear and tear. Will do the family washing without boiling clothes, hand-scrubbing or back breaking. Revolves on bicycle ball bearings and is therefore easiest running washer ever made. Will do two hours' washing in ten minutes.
Washes collars and cuffs, laces and the most delicate materials perfectly clean and positively without tearing them or wearing out a single thread. It will wash blankets, bed spreads and the heaviest clothes just as easily and thoroughly. Clothes are torn and worn out more by washboards and out-of-date hard rubbing washers than they are by use. The saving in soap, coal and wear and tear of clothes will pay for machine in a short time.
ABSOLUTE PROOF.
$1,000.00 will be paid if this letter is not genuine.
KANSAS CITY, MO., May 14, 1902.
I have given your washer a fair trial. It is the best washer I ever saw. It has washed our heavy blankets with ease. I washed them last spring and rubbed more than an hour, and yet they had to go through again, but the "1900" Washer cleaned them thoroughly clean. We do our washing very quick and have no tired and worn-out feeling as of old. MRS. J. L. BANNER, 4302 Troost Ave.
Remember—You take absolutely no risk, incur no expense or obligation whatever. The Washer is sent by us on 30 days' trial, freight prepaid coming and going, and positively without any advance or deposit of any kind.
THE "1900" WASHER CO.,
23 F. State Street, BINGHAMTON, N. Y

Write for free booklet telling about the
JAS. BOSS Stiffened Gold WATCH CASE
The Keystone Watch Case Co., Philadelphia.

If You Value Comfort while riding, you should secure a Lehman Carriage and Wagon Heater. They cost 2c. day to heat. Write for particulars.
LEHMAN BROS., Manufacturers, 10 Bond St., N. Y.

We Want Ladies in each town to send for our free catalogue of stoves, sewing machines and refrigerators. 30 days free trial.
J. A. Tolman Co., 66 Lake Street, Dept 910, Chicago, Ill.

Men and Women Wanted to take charge of the distributing of samples of a GROCERY SPECIALTY and collecting. $18 weekly and upward, according to ability and locality. K. H. Co., Box 788, New York.

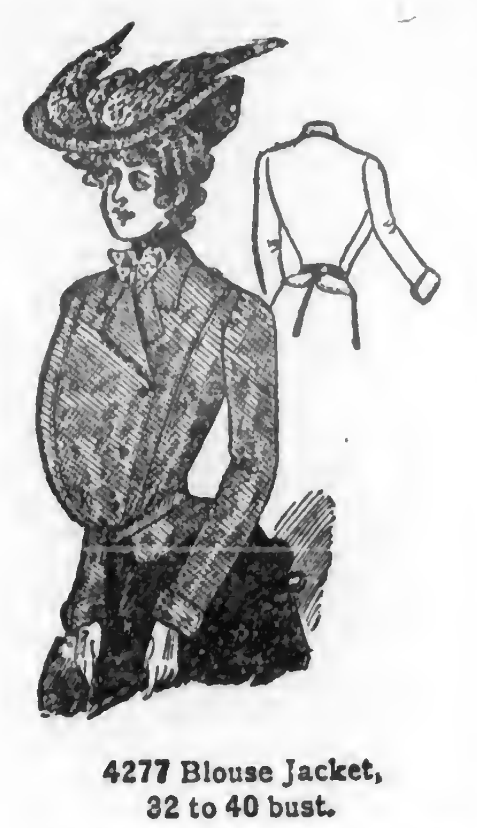
BBL. SUGAR, $2.95. Dont send money. Write for particulars.
KOBL BROS.' CO., Inc., 47-49 W. Lake St., Chicago, Ill.

WHEN YOU WANT a clothes wringer write to the AMERICAN WRINGER Co., NEW YORK. They make the best. Ask for their catalogue and prices.

Buy "BALL Band" BOOTS
Rubber and Wool, Arctics, and Rubber Shoes.

Fashion Fancies.

The quantity of material required for the medium size is 4¼ yards 21 inches wide, 2 yards 44 inches wide or 1¾ yards 32 inches wide. The pattern, 4277, is cut in sizes for a 32, 34, 36, 38 and 40 inch bust measure, and may be had for ten cents from The Farmer Co., Market & 18th Sts., Philadelphia.



4277 Blouse Jacket, 32 to 40 bust.

Correspondence.

Mrs. James Wyckoff, Farmer, Seneca Co., New York, writes: I see in the H. C. correspondence that Mrs. Dornblazer has found her two brothers and I am wondering if the readers can help me find mine. About twenty-five years ago I had a letter from the oldest one. He was then in Ashtabula, Ohio. He was inclined to be a little wild, but I trust, if he is living, that time has remedied this. Our mother died when we were all small. Think of leaving eleven helpless children! She died praying God to care for us and keep us from sin. This brother's name was George Woodel. The other one, William Woodel, I heard from about 16 years ago. He had bought a farm—all wood land—in Michigan, and at the time was talking of buying a milk route in Chicago. I have never heard from him since. I should be most grateful to learn of their whereabouts.

[We sincerely hope that the results in this case may be as happy as in the other.—ED.]

Etta Byrd, Farina, Ill., writes: Why can we not think less of the cares and worries of life and more of the pleasures we have and those we might enjoy? We feel that today we have too much to do to think of anything but work, but some other time—next week, perhaps, or next year—we may have more time to enjoy life. But as the weeks come and go we find so much to do that we miss many simple pleasures which we might enjoy. While we find happiness in being busy and useful, let us also make our surroundings as comfortable and beautiful as possible. It takes but very little time or expense to cultivate flowers, either in the garden in Summer or in the house in Winter, and they add so much to the attractiveness of a home. We, in our home, find that a pair of canary birds, given to us a few months ago, adds much to our enjoyment of life and it requires only a few minutes each day to care for them. If you cannot afford to furnish all the books, magazines and papers the family wish to read, combine with your neighbors. Let several families join together, each supplying themselves with certain books and papers, which are to be loaned to each other family. Provide the young folks with plenty of good literature, music and games. Let them have a pleasant room at home where they can entertain their friends. Let them earn spending money sufficient for their needs. When old enough let them earn enough to meet all their expenses, and so learn to use money wisely. It is said that "The only way to realize our ideal is by idealizing the real," so why should we not enjoy our surroundings and circumstances to the fullest extent, and surround ourselves with as much innocent pleasure as possible? One of the greatest pleasures comes from giving pleasure to other people; this is one way to add to our own happiness.

Mrs. O. J. Olson, Tougaloo, Miss., writes: In the bottom of our trunk is a box, the contents of which are most precious. The memory of each article binds us to the happy past. How many times have we opened the box and spent many happy moments dreaming over these things. We remove the cover; on top lie some invitations to girl parties, and some school girl notes. Then comes a kid glove, once spotless white, now yellow with age. We recall the party we bought the pair for, but we have only one; where is the other? Next comes a little dry bunch of flowers. When were they worn, where, and who sent them? We are sure, as we look at them, they tell us a sweet story. Now follows some letters written by father, mother or sister, who have passed to that other world. Some from lover, now husband. These we read over and over again, as if we could never learn their contents, and each time we read them they seem new. Here are some faded roses we carried on our wedding day. What is in that white paper? We open it and behold a beautiful curl cut from the head of our boy, now a broad shouldered man. Here, also, is a tiny printed letter and a doll's dress made by her whom we call "daughter." Next comes a pretty baby dress, a little half worn shoe, some broken jewelry, all of no value, but who would part with these treasures? They, together with the memories they arouse, are to us the wealth of the world.

Walpole Nockolds, Oakley, Texas, writes: In reading my P. F. of Dec. 6th, I notice the call for experiences, so will give some of mine. We made up several bushels of tomatoes this Fall, and as frost threatened we pulled a good many green ones and cooked up a fine lot of preserves in this way. Weigh fruit, then take one-half pound of sugar for each pound of fruit. Make a syrup by adding water and stirring till sugar is melted. Then while syrup boils, wash tomatoes and when it boils clear put them in, a few at a time, so as not to stop them boiling too much. Then cook (not too fast) until done. You can use any spices or flavor desired. Another way in which we enjoy tomatoes is as follows: We slice or cut them in small pieces, say six or eight ripe ones, slice two good sized onions, several green peppers and cook in frying pan with lard or oil, say three tablespoonfuls. After cooking several minutes add some Chili powders and salt, perhaps a tablespoonful of the powders and a teaspoon of salt. Cook all slowly till done, and you'll have what I call a vegetable chili. I bought an incubator (100-egg) and a 100-chick brooder last Spring the only ones within miles of here, and made two hatches. I hatched 132 chicks and raised over 100 of them. I did not feed the chicks till the first hatched ones were three days old, then I put millet seed and rolled oats in a pile of dry sand and made the little fellows scratch it out. They soon learned and scratched like old hens. I gave them all the grit and water they needed. After they were two weeks old I began to feed them cracked corn and wheat. I fed them little and often and they grew nicely. I have just got some thoroughbred B. P. Rocks; two roosters and five hens and five pullets. They are the first ever brought into this county, and everyone admires them. They are so large, and with their pretty markings and yellow legs, they make a pretty picture. I have sold off most of my scrubs, keeping a few of the most motherly hens for sitters. Have five acres of sandy land, which I am gradually improving according to P. F. methods; also manage a small general merchandise business and am postmaster.

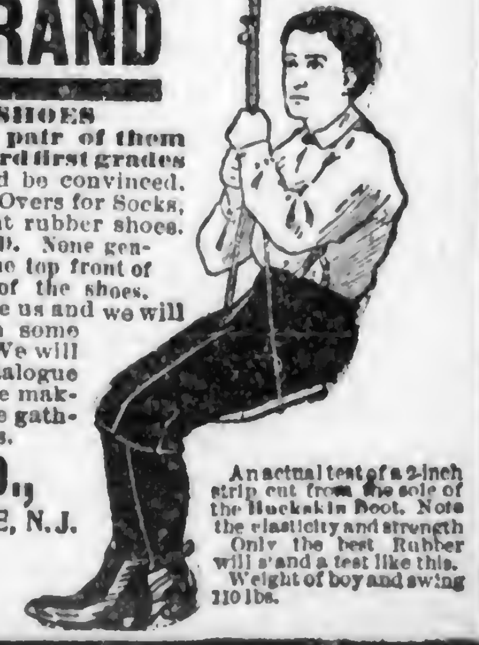
[Hope to hear from you again.—ED.]

Y. P. Cook Book.

Cora L. Richards, Carleton, Mich., writes and tells how to make bread. Take a common yeast cake, soak one hour in one pint luke warm water; then stir in two teaspoonfuls sifted flour, one of sugar and one-half of a teaspoonful of salt and let rise. Boil three large potatoes until done, then remove from the stove and mash very fine; add three and a half quarts of luke warm water; add the yeast and two tablespoonfuls of sugar and one of salt; let set over night. Early in the morning mix this into enough flour to make stiff (do not sponge). When light knead down; let rise again and knead again. Then let rise again and mould into loaves. Do not add any flour, but grease your hand with butter. This is enough for six good sized loaves and makes it very nice. Do not mix on board. I am eleven years old.

[No, Cora, to your query.—ED.]

A thick suds of Ivory Soap in lukewarm water and a soft cloth will restore the polish to parlor furniture with very little effort and not the least chance of harm.
The vegetable oils of which Ivory Soap is made fit it for many special uses for which other soaps are unsafe or unsatisfactory.



THE WEAR OF RUBBER BOOTS AND SHOES DEPENDS UPON THE RUBBER IN THEM.
There is absolutely no wear in any of the other ingredients of which they are composed. Every time the quality of Rubber Boots and Shoes is reduced 10 per cent., the durability is reduced over 20 per cent. because there is only one way to cheapen them, and that is to leave out Rubber and put in its place other things that have no wearing quality whatever. This cheapening process has been steadily going on for the past 40 years.
THE BUCKSKIN BRAND
OF RUBBER BOOTS AND SHOES
are made of real rubber—and one pair of them will outwear two pairs of the standard first grades now on the market. Try a pair and be convinced. Made in Duck Boots, Duck rolled edge Overs for Socks, and Felt Boots and in Arctics and light rubber shoes.
Insist on getting the BUCKSKIN BRAND. None genuine without the word BUCKSKIN on the top front of the legs of the boots and the bottoms of the shoes.
If your dealer does not keep them write us and we will see that you get them either through some dealer in your town or from us direct. We will also send you a very interesting catalogue profusely illustrated, which describes the making of Rubber Boots and Shoes from the gathering of the rubber to the finished goods.
MONARCH RUBBER CO.,
60 Bridge Street, LAMBERTVILLE, N.J.
FACTORY, ST. LOUIS, MO.
NOT MADE BY A TRUST.
An actual test of a 2-inch strip cut from the sole of the Buckskin Boot. Note the elasticity and strength. Only the best Rubber will stand a test like this. Weight of boy and swing 110 lbs.

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

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Pass it on;
It was not meant for you alone."

And so it seemed to us, as the words of Mrs. Robert Burdette, who spoke before the Woman's Club of Madison recently, sank into our heart, surely we ought to pass them on. Many of you have heard, or will hear her speech entitled "Unity and Diversity," but many more will not, and one might hear it many times and not then have mined its entire wealth. We can quote but briefly, but enough it seems to us, to give to the world our creed: to win all good women to club organization, and to silence forever the critic. And remember this is no idle talk; everywhere good work is being done, work that speaks for itself. There is no town so small, no neighborhood so thinly settled, but a club would be a veritable Godsend, each working out its own destiny in the place where it is planted. Mrs. Burdette says: "I would that there were a new Handel to create a new Messiah of thanksgiving that 'unto you a club was born.' The women's organizations are a living factor of the world's progress of to-day. The movement dates from the close of the rebellion when the blacks were emancipated and given suffrage, but women were debarred. From the woman's suffrage movement developed the woman's club. At first it was considered a fad. The evolution of the 'club woman's husband' had not yet begun. But lo! a great army of organized women has been merged into an altruistic body, not alone in our own country, but in lands governed by emperors and kings. The value of club life to the individual woman has been manifold. Just as the babe develops its age by discovering the use and purpose of little hands and feet and other members of the body, so the club woman discovers her true self by intercourse with intelligent women. She has learned to know herself, her weaknesses, and by broader culture to increase the circumference of her circle.

"We have not always comprehended what our lives are for, the great possibilities and opportunities before us. A woman's influence is as great as her intelligence and through the broadening tendency of this club life she becomes a better companion to her children and a closer comrade to her husband. No woman has any right to undertake any work that does not emanate from the home and return to the home. I would sound the bugle call of this great organization, and declare that God has committed to our keeping the care of our future citizen. First, those in our homes, then those in less favored homes then the little white slaves—the child wage earners in factories and mills. This work has been done and will continue to be done through better home conditions; through educational influences, by the establishment of kindergartens and manual training, and domestic science schools; by more attractive and sanitary school buildings, through industrial schools, through the establishment of juvenile courts, through all that tends to make the future citizen a law-abiding, industrious human being. And because there is so much to be done for the citizen of the future that can be reached only through public sentiment promulgated—by a moral atmosphere which cannot be established by the reading of papers nor created by resolutions, yet through all the diversified individuality of womanhood everywhere, there can be a unity of personal standard that shall say to the world, 'The women who wear this badge stand first of all for the sacredness of true womanhood.' It shall say, that with all of our womanly powers we will demand and urge the more sacred holding of the marriage tie, that it may not be so lightly assumed, nor so easily broken. To the fact that in the growing spirit of commercialism, marriage is coming to be considered a business contract rather than a holy sacrament, is due more than half the heartache in the world of womanhood, and we women who live in loving and happy homes are not altogether innocent. By the very virtue of our happiness in home and loyal husband, we are our sisters' keepers. It is an appalling fact that divorces in the United States are increasing three times as rapidly as the population. If that ratio continues, by the close of the twentieth century, separations by death will be fewer than separations by discord. Therefore let us not neglect while we surround these little ones with an atmosphere of purity, to establish a higher standard in their hearts. Let us say to our sons as we do to our daughters, 'There is but one and the same standard of morality for the man and the woman.' One more responsibility we hold for the future citizen which often we fail to recognize. What is this luxurious age in which we live going to leave him for his heritage, and how far are we responsible for it? Women cannot stand aside in this day of commercialism and money getting, and say: 'We have no part in it.' Men are beside themselves with the money-madness. But why? Is it always for mere love of money? I do not believe it. Go home today to your wage earner—your bread winner—and say: 'I am going to live more simply. I am going to be happier with less show and more comfort. I would far rather have your companionship than your money.' Say that, and live that, and see how many more hours an emancipated man, glad to be rid of some of the worry and strain of business, will spend with yourself and the children. Last year 625 men in business life went astray, fled from the home and fell into the hands of the law, as embezzlers, robbing employers and business associates of twenty-five millions of dollars, stealing to keep up expensive homes, and keep the wife and daughters in 'good society'! 'Good society'—with a wife in the social swim and a husband in the penitentiary! This mammon worship!

"I was asked once what thought I could give that would be the most helpful to women. My answer was that they should have the courage to live simply. Oh, women of America. If we should do nothing else than live simply, and teach the coming citizen that he had better be pure and purer, that manhood is worth more than moneyhood, all the world would rejoice that, like Esther, the beautiful and womanly, 'we had come to the kingdom for such a time as this'—for the enlargement and deliverance of our people.

"Men will not say—you dare not say—these are 'unwomanly ambitions' for a federation of 750,000 women. They are not 'ambitions;' they are aspirations—inspirations. This, then, we say for this great allied movement of womanhood throughout the world—the one grand, unifying thought that throbs like the mighty heart in a body of many members is this—home-keeping and childhood. I say to you this organization that girdles the globe with noble and inspiring purposes, has been, is, and will be a persistent, righteous, powerful factor in the world's evolution, because its final heart motive is the true exponent of woman's divine gift' of homekeeping and motherhood."

* * * * * * * *

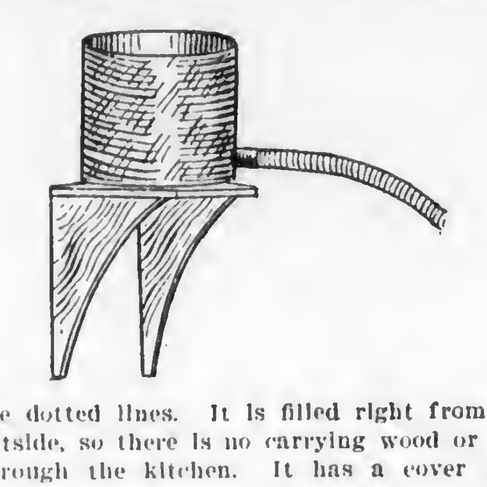
To the sister who asks if *nom de plumes* are permissable, we reply, certainly, if your true name is enclosed for our benefit.

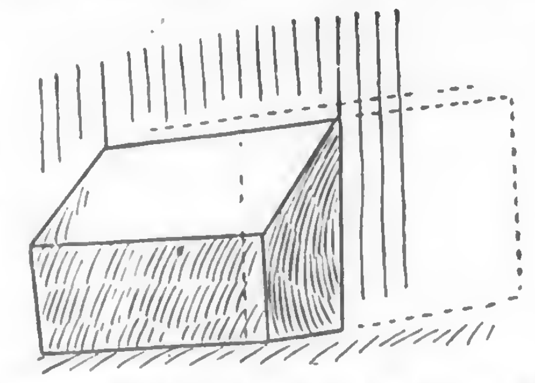
In the Kitchen.

MRS. LEE GROVER.

Water and fuel are the two principal articles in the kitchen. To have them handy and convenient saves nearly one-half the labor. The enclosed illustration nearly explains itself. The water tank is made of galvanized iron to hold 15 or 20 gallons, and has a spigot at the bottom on which is fitted a short piece of rubber hose. The teakettle, or anything else on the stove, can be quickly and easily filled without spilling any on the stove or floor. The shelf on which the tank sits should be a little higher than the stove and fastened securely to the wall. It can be filled with a force pump or carried in pails.

The fuel box is made in the wall near the stove and extends out in the wood shed or coal bin, back of the kitchen, as shown by the dotted lines. It is filled right from the outside, so there is no carrying wood or coal through the kitchen. It has a cover with hinges and always looks neat. It is the handiest fuel box I know of. Now I hope all the ladies who read this will keep harping at it until they get these conveniences.

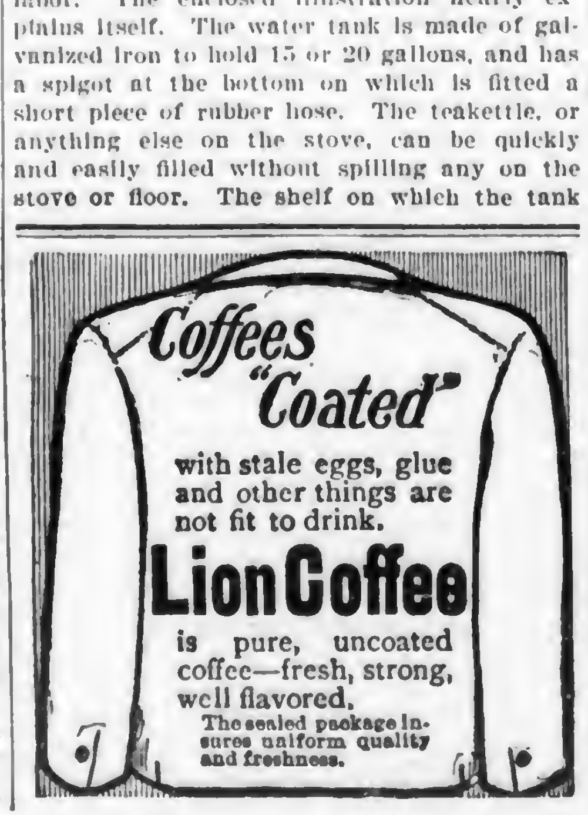




McHenry Co., Ill.

Our Book Table.

It is evident that the author of "The Master" not only carefully laid his plot, but became himself thoroughly acquainted with each character before introducing him or her to the public; and the manner in which each is sustained throughout makes it, in diction alone, a masterpiece. Indeed, if our opinion holds for aught, Zangwill himself is the master painter, albeit he wields a pen instead of a brush. Nowhere is this artistic talent more in evidence than in the lengthy conversations which, conducted by almost anyone else, would be prolix. He has the rare gift of being himself each man, woman and child that peoples his pages. He is as recognizable in Tommy, the Indian lad, as in David Strang, the drowned sailor, and, speaking of the latter, it is a trait of a great author to side track, and, in a few brief pages, expose the real man in contradistinction to the man as he appeared. Those who have read "The Master" must have noted this glimpse of the inner man in the second chapter, where Matt and his father were caught by the tide while out fishing. Then and there Matt and the reader see and know the real David Strang.



Coffees "Coated" with stale eggs, glue and other things are not fit to drink.

Lion Coffee is pure, uncoated coffee—fresh, strong, well flavored.

The sealed package insures uniform quality and freshness.

Right or wrong chimney makes or unmakes a lamp.

MACBETH.

My name on every "right" one.

If you'll send your address, I'll send you the Index to Lamps and their Chimneys, to tell you what number to get for your lamp.

– MACBETH, Pittsburgh.

ABSOLUTE RANGE PERFECTION

Sold for CASH or on MONTHLY PAYMENTS

Your money refunded after six months' trial if Clapp's Ideal Steel Range is not 50 per cent. to 100 per cent. better than you can buy elsewhere. My superior location on Lake Erie, where iron, steel, coal, freights and skilled labor are the cheapest and best, enables me to furnish a TOP NOTCH Steel Range at a clean saving of $10 to $20, quality considered. Freight paid east of Mississippi and north of Tennessee. Send for free catalogues of all styles and sizes, with or without reservoir, for city, town or country use.

CHESTER D. CLAPP, 685 Summit St., Toledo, O.

(Practical Stove and Range Man)

WHY STAY PALE.

A pity to see pale girls stay pale and dull when it is so easy to get Scott's Emulsion.

One of the best things Scott's Emulsion does is to give rich blood to pale girls.

The result of regular doses of Scott's Emulsion is an increase not only in the red color of the blood and in the appetite but in the good looks and bright manners which are the real charm of perfect health.

Send for Free Sample.

SCOTT & BOWNE, Chemists, 409 Pearl St., N. Y.

Then again, the author masquerades as Mrs. Strang, good hearted, loyal to husband and child, while her lips are uttering mad maledictions and threatening carelessly to "throw up the position." Perhaps in passing we may note that humble Abner Preep is one of God's noblemen. Then there is cripple Billy—who has not known just such people. A soul wrecked by a maimed body. But of course the hero, the great character, is Matthew Strang, Jr.—Matt, whom we meet first vainly trying to comfort Billy and appease his angry mother that first cold Nova Scotia night; Matt with his mania for daubing the pictures in the big Bible and drawing charcoal sketches of everybody and everything; Matt, with his strange mixture of child and man mind; Matt, with his intense longing to spread his wings and fly away, yet stubborn adherence to duty and honor as he saw it; Matt amid his brief successes and tedious reverses; the double Matt who went through life as pure as a child and yet forever surrounded, and ofttimes dallying with sin in every form; Matt, the husband of Rosina and the ardent lover of some ideal woman—this ideal personified for one brief space of time by Eleanor Wyndwood; Matt, the intruder in his wife's cabbage befouled kitchen and Matt the idol of a London drawing room, the lion of the art academies, and Matt the final grand master of art, but infinitely grander master of self. And Rosina, poor Rosina! While we have felt righetously indignant at her one moment we have pitied her the next, and, indeed, we should not blame her—she was as true to her ideals as her husband to his, and then she did not know the inner Matthew Strang as the reader is permitted to know him. But hers is, in some respects, a beautiful character—and how like a woman to chide him with neglect and meet him with coldness, while her letters to the old Nova Scotia home were full of his praise, and her little child said she could not sleep nights because mamma cried so. O, the pathos of it all from that first icy night, in the little clearing home near Cobequid village, to the hour when our hero quit Paris, after his meeting with his childhood love, Ruth Halley, and his terrible battle with himself! And it was a terrible battle in which gilded wrong and homely right stood face to face; when a mad infatuation and dull duty fought for supremacy; where three banners seemed waving before him; on one the faded, fretful face of his wife; on another the fascinating one of Eleanor Wyndwood, with her soul thrilling eyes, as she said:

"Come for me next Sunday night at seven—you will take me to dinner somewhere quiet, in this great free Paris. And then—then we can talk over the future."

On the third, and between the others, as it were, was the sweet, womanly countenance of Ruth Halley, and she was saying:

"How proud your wife is of you. What a good woman she must be." And then again: "'Goodbye, dear Matt. God bless you!"

And the outcome?

He writes a farewell to Eleanor; he goes home to the sulky Rosina; he gives up society; he intended to give up art. He did give up his grand studio; but, quoting from the book: "From the glooms and trials of the daily routine in this prosaic home, with its faithful but narrow-souled mistress, who knew not what was passing in her husband's mind, nor at what cost he made her happy, and who would not even agree to live in some beautiful country spot which would have softened life for him—from this depressing household, with its unsprightly children, its cheerless pensioner, its querulous cripple resenting the very hand that fed him, he escaped to the little whitewashed studio to find in his art oblivion of the burdens of life. Solitary, silent, sorrowful, strong; not chattering about his ideas and aims; indifferent to fame or the voice of posterity, striving for self approbation and rarely obtaining it, touching and retouching, breaking the rules of the school in obedience to his own genius, he toiled on in his humble studio, seeking the highest, with no man or woman to inspire, encourage or praise. He had been saved from love and happiness, and sent back into sympathy with all that works and suffers. * * * * And yet his life is not all unhappy—work is his anodyne, and there is an inner peace in the daily pain, because it is the pain that his soul has chosen, in willing slavery to his own yoke."

And men call him "The Master."

In a private letter an old editor and publisher once wrote us: "Every acceptable story either leaves a pleasant impression or teaches a lesson."

"The Master" certainly does not leave an impression altogether pleasing. There is too much shadow in the weaving; too much heartache, failure and reality. But there are lessons, lessons. All this the thought of the sympathetic reader, but there is another view, the view taken by the—as Zangwill would put it—"brutal critic," who, with much justice might complain that the tale is too long by one-fourth, and that ofttimes the meaning is smothered in words; that the sentences are so long and complex as to drive Murray, Swinton and all the other grammarians to desperation; that there are so many more bad than good people—politely bad, that is—and that in the whole story there is not one happy marriage and homelike home, unless we may except Abner and Harriet Preep's. We know nothing of the personal history of the author, but one is almost unconsciously led to suspect that either his childhood or manhood home was not the ideal place, and that this fact colored his delineations of other hearthstones. Certain it is that ill assorted marriage was the curse of "The Master's" life from beginning to end; and yet the spirit of the old Scotch Presbyterian ancestors made wedlock binding, and forbade that "what God had joined together" man should put asunder. It is a poor book, however, that provokes no adverse criticism, and then, you know, the hired critic of today, like the hired mourner of old, must do his part whether he feels like it or not. One thing is sure, everyone must read a book for himself if he is to really know anything about it, for the critic is human and when you have read his report you only know how the story looked to him through his glasses. "Many men of many minds," you know.

The "1900" Ball-Bearing WASHING MACHINE SENT FREE

without deposit or advance payment of any kind, freight paid both ways, on 30 days' trial. Unquestionably greatest family labor saver ever invented. Saves time, expense and wear and tear. Will do the family washing without boiling clothes, hand-scrubbing or back breaking. Revolves on bicycle ball bearings and is therefore easiest running washer ever made. Will do two hours' washing in ten minutes.

Washes collars and cuffs, laces and the most delicate materials perfectly clean and positively without tearing them or wearing out a single thread. It will wash blankets, bed spreads and the heaviest clothes just as easily and thoroughly. Clothes are torn and worn out more by washboards and out-of-date hard rubbing washers than they are by use. The saving in soap, coal and wear and tear of clothes will pay for machine in a short time.

ABSOLUTE PROOF.

$1,000.00 will be paid if this letter is not genuine.

KANSAS CITY, MO., May 14, 1902.

I have given your washer a fair trial. It is the best washer I ever saw. It has washed our heavy blankets with ease. I washed them last spring and rubbed more than an hour, and yet they had to go through again, but the "1900" Washer cleaned them thoroughly clean. We do our washing very quick and have no tired and worn-out feeling as of old. MRS. J. L. BANNER, 4302 Troost Ave.

Remember—You take absolutely no risk, incur no expense or obligation whatever. The Washer is sent by us on 30 days' trial, freight prepaid coming and going, and positively without any advance or deposit of any kind.

THE "1900" WASHER CO.,

23 F. State Street, BINGHAMTON, N. Y

Write for free booklet telling about the

JAS. BOSS Stiffened Gold WATCH CASE

The Keystone Watch Case Co., Philadelphia.

If You Value Comfort while riding, you should secure a Lehman Carriage and Wagon Heater. They cost 2c. day to heat. Write for particulars. LEHMAN BROS., Manufacturers, 10 Bond St., N. Y.

We Want Ladies in each town to send for our free catalogue of stoves, sewing machines and refrigerators. 30 days free trial. J. A. Tolman Co., 66 Lake Street, Dept 010, Chicago, Ill.

Men and Women Wanted to take charge of the distributing of samples of a GROCERY SPECIALTY and collecting. $18 weekly and upward, according to ability and locality. K. B. Co., Box 788, New York.

BBL. SUGAR, $2.95. Dont send money. Write for particulars. KOHL BROS.' CO., Inc., 47-49 W. Lake St., Chicago, Ill.

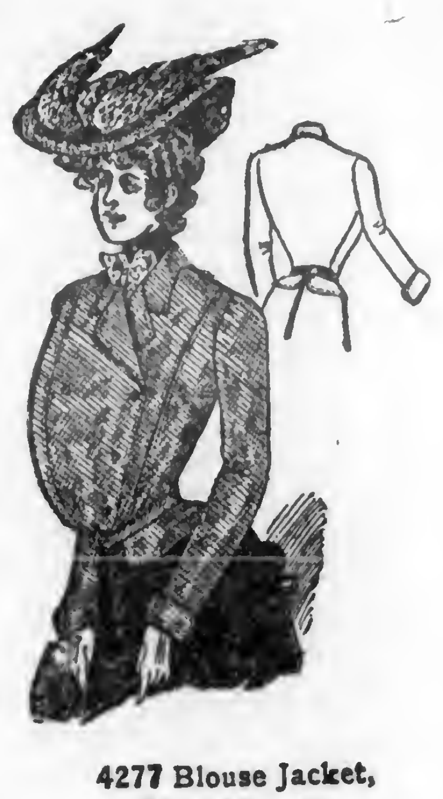
WHEN YOU WANT a clothes wringer write to the AMERICAN WRINGER Co., NEW YORK. They make the best. Ask for their catalogue and prices.

Buy "BALL Band" BOOTS

Rubber and Wool, Arctics, and Rubber Shoes.

Fashion Fancies.

The quantity of material required for the medium size is 4¼ yards 21 inches wide, 2 yards 44 inches wide or 1¾ yards 52 inches wide. The pattern, 4277, is cut in sizes for a 32, 34, 36, 38 and 40 inch bust measure, and may be had for ten cents from The Farmer Co., Market & 18th Sts., Philadelphia.



4277 Blouse Jacket, 32 to 40 bust.

Correspondence.

Mrs. James Wyckoff, Farmer, Seneca Co., New York, writes: I see in the H. C. correspondence that Mrs. Dornblazer has found her two brothers and I am wondering if the readers can help me find mine. About twenty-five years ago I had a letter from the oldest one. He was then in Ashtabula, Ohio. He was inclined to be a little wild, but I trust, if he is living, that time has remedied this. Our mother died when we were all small. Think of leaving eleven helpless children! She died praying God to care for us and keep us from sin. This brother's name was George Woodel. The other one, William Woodel, I heard from about 16 years ago. He had bought a farm—all wood land—in Michigan, and at the time was talking of buying a milk route in Chicago. I have never heard from him since. I should be most grateful to learn of their whereabouts.

[We sincerely hope that the results in this case may be as happy as in the other.—ED.]

Etta Byrd, Farina, Ill., writes: Why can we not think less of the cares and worries of life and more of the pleasures we have and those we might enjoy? We feel that today we have too much to do to think of anything but work, but some other time—next week, perhaps, or next year—we may have more time to enjoy life. But as the weeks come and go we find so much to do that we miss many simple pleasures which we might enjoy. While we find happiness in being busy and useful, let us also make our surroundings as comfortable and beautiful as possible. It takes but very little time or expense to cultivate flowers, either in the garden in Summer or in the house in Winter, and they add so much to the attractiveness of a home. We, in our home, find that a pair of canary birds, given to us a few months ago, adds much to our enjoyment of life and it requires only a few minutes each day to care for them. If you cannot afford to furnish all the books, magazines and papers the family wish to read, combine with your neighbors. Let several families join together, each supplying themselves with certain books and papers, which are to be loaned to each other family. Provide the young folks with plenty of good literature, music and games. Let them have a pleasant room at home where they can entertain their friends. Let them earn spending money sufficient for their needs. When old enough let them earn enough to meet all their expenses, and so learn to use money wisely. It is said that "The only way to realize our ideal is by idealizing the real," so why should we not enjoy our surroundings and circumstances to the fullest extent, and surround ourselves with as much innocent pleasure as possible? One of the greatest pleasures comes from giving pleasure to other people; this is one way to add to our own happiness.

Mrs. O. J. Olson, Tougaloo, Miss., writes: In the bottom of our trunk is a box, the contents of which are most precious. The memory of each article binds us to the happy past. How many times have we opened the box and spent many happy moments dreaming over these things. We remove the cover; on top lie some invitations to girl parties, and some school girl notes. Then comes a kid glove, once spotless white, now yellow with age. We recall the party we bought the pair for, but we have only one; where is the other? Next comes a little dry bunch of flowers. When were they worn, where, and who sent them? We are sure, as we look at them, they tell us a sweet story. Now follows some letters written by father, mother or sister, who have passed to that other world. Some from lover, now husband. These we read over and over again, as if we could never learn their contents, and each time we read them they seem new. Here are some faded roses we carried on our wedding day. What is in that white paper? We open it and behold a beautiful curl cut from the head of our boy, now a broad shouldered man. Here, also, is a tiny printed letter and a doll's dress made by her whom we call "daughter." Next comes a pretty baby dress, a little half worn shoe, some broken jewelry, all of no value, but who would part with these treasures? They, together with the memories they arouse, are to us the wealth of the world.

A thick suds of Ivory Soap in lukewarm water and a soft cloth will restore the polish to parlor furniture with very little effort and not the least chance of harm.

The vegetable oils of which Ivory Soap is made fit it for many special uses for which other soaps are unsafe or unsatisfactory.

Walpole Nockolds, Oakley, Texas, writes: In reading my P. F. of Dec. 6th, I notice the call for experiences, so will give some of mine. We made up several bushels of tomatoes this Fall, and as frost threatened we pulled a good many green ones and cooked up a fine lot of preserves in this way. Weigh fruit, then take one-half pound of sugar for each pound of fruit. Make a syrup by adding water and stirring till sugar is melted. Then while syrup boils, wash tomatoes and when it boils clear put them in, a few at a time, so as not to stop them boiling too much. Then cook (not too fast) until done. You can use any spices or flavor desired. Another way in which we enjoy tomatoes is as follows: We slice or cut them in small pieces, say six or eight ripe ones, slice two good sized onions, several green peppers and cook in frying pan with lard or oil, say three tablespoonfuls. After cooking several minutes add some Chili powders and salt, perhaps a tablespoonful of the powders and a teaspoon of salt. Cook all slowly till done, and you'll have what I call a vegetable chili. I bought an incubator (100-egg) and a 100-chick brooder last Spring the only ones within miles of here, and made two hatches. I hatched 132 chicks and raised over 100 of them. I did not feed the chicks till the first hatched ones were three days old, then I put millet seed and rolled oats in a pile of dry sand and made the little fellows scratch it out. They soon learned and scratched like old hens. I gave them all the grit and water they needed. After they were two weeks old I began to feed them cracked corn and wheat. I fed them little and often and they grew nicely. I have just got some thoroughbred B. P. Rocks: two roosters and five hens and five pullets. They are the first ever brought into this county, and everyone admires them. They are so large, and with their pretty markings and yellow legs, they make a pretty picture. I have sold off most of my scrubs, keeping a few of the most motherly hens for sitters. Have five acres of sandy land, which I am gradually improving according to P. F. methods; also manage a small general merchandise business and am postmaster.

[Hope to hear from you again.—ED.]

Y. P. Cook Book.

Cora L. Richards, Carleton, Mich., writes and tells how to make bread. Take a common yeast cake, soak one hour in one pint luke warm water; then stir in two teaspoonfuls sifted flour, one of sugar and one-half of a teaspoonful of salt and let rise. Boil three large potatoes until done, then remove from the stove and mash very fine; add three and a half quarts of luke warm water; add the yeast and two tablespoonfuls of sugar and one of salt; let set over night. Early in the morning mix this into enough flour to make stiff (do not sponge). When light knead down; let rise again and knead again. Then let rise again and mould into loaves. Do not add any flour, but grease your hand with butter. This is enough for six good sized loaves and makes it very nice. Do not mix on board. I am eleven years old.

[No, Cora, to your query.—ED.]

THE WEAR OF RUBBER BOOTS AND SHOES DEPENDS UPON THE RUBBER IN THEM.

There is absolutely no wear in any of the other ingredients of which they are composed. Every time the quality of Rubber Boots and Shoes is reduced 10 per cent., the durability is reduced over 20 per cent. because there is only one way to cheapen them, and that is to leave out Rubber and put in its place other things that have no wearing quality whatever. This cheapening process has been steadily going on for the past 40 years.

THE BUCKSKIN BRAND OF RUBBER BOOTS AND SHOES

are made of real rubber—and one pair of them will outwear two pairs of the standard first grades now on the market. Try a pair and be convinced. Made in Duck Boots, Duck rolled edge Overs for Socks, and Felt Boots and in Arctics and light rubber shoes.

Insist on getting the BUCKSKIN BRAND. None genuine without the word BUCKSKIN on the top front of the legs of the boots and the bottoms of the shoes. If your dealer does not keep them write us and we will see that you get them either through some dealer in your town or from us direct. We will also send you a very interesting catalogue profusely illustrated, which describes the making of Rubber Boots and Shoes from the gathering of the rubber to the finished goods.

MONARCH RUBBER CO.,

60 Bridge Street, LAMBERTVILLE, N. J.

FACTORY, ST. LOUIS, MO.

NOT MADE BY A TRUST.

An actual test of a 2-inch strip cut from the sole of the Buckskin Boot. Note the elasticity and strength. Only the best Rubber will stand a test like this. Weight of boy and swing 110 lbs.

Our Experience Pool.

"Experience is the best teacher." This Experience Pool will be a weekly Farmer's Institute for the exchange of practical ideas by practical farmers. We want them to give their experience, as well as suggest topics for future discussion. We publish this department so that all may have the benefit of the tangible, practical experience of others on every subject pertaining to the farm. Let all contribute. A cash prize of 50 cents will be paid for the best contribution, 25 cents for each other contribution published. The only condition is that you are a yearly subscriber to the paper. Write on one side of paper only. On upper left hand corner mark plainly the number of the topic you write about. Articles on all topics must be in our hands at least three weeks before publication. Do not forget to suggest ahead topics for discussion. Address all communications to THE EDITOR, Box 385, Raleigh N. C.

Topic No. 556, Jan. 24. — *What Have You Found to be the Most Economical Roofing Material for Farm Buildings?*

Topic No. 557, Jan. 31.—*For Ladies Only.—Tell us How You Succeed With Window Plants in Winter, What You Grow and How You Treat Them.*

Topic No. 558, Feb. 7. — *What Sort of a Brooder do You Use for Incubator Chicks?*

Topic No. 559, Feb. 14.—*How Are Farmers' Institutes Managed in Your Section, and in What Way do You Think They can be Improved and Made More Helpful to the Farmers?*

Topic No. 560, Feb. 21.—*Growing Tomatoes for the Canning Factory. What Variety Have You Found Best, and How do You Manage the Crop from Start to Finish?*

Topic No. 561, Feb. 28.—*Have You Adopted Any Systematic Method of Improving Your Seed Corn? If so, How and With What Success?*

Topic No. 562, March 7.—*Have You Raised Good Calves Without Milk? If so, How?*

Topic No. 563, March 14. — *What Varieties of Pears Have You Found Most Profitable, and How do You Cultivate and Pack for Market? Have Dwarf Trees Been Profitable?*

Topic No. 564, March 21.—*For the Ladies. How do You Make the Washing of Dishes, Pots and Pans Easier and not at the Expense of Time and Cleanliness?*

Topic No. 565, March 28.—*Have You Ever Tried Flat Culture with Cotton, and What is the Best Distance to Thin in the Rows and Between the Rows?*

Topic No. 554.—Angora Goats. Give Your Experience With Them. Have They Been Profitable or Not? Have You Used Them in Clearing up Brush Land.

W. S. Wheeler, Coats, Ark.—Two years ago I bought twenty-eight head of Angora goats for the purpose of clearing up my farm, which was grown up to sassafras, briars, weeds and brush of all kinds. It was an experiment on my part as I was not familiar with the habits of Angora goats nor any other goats, but I had read of their value as brush cleaners, and I have to say they have gone far ahead of my expectations. They have absolutely killed all the brush, etc., on about forty acres; where once was a wilderness now it is as clean as a Kansas prairie. Not only have they paid me back all they cost me ($90) in work, but I have sold of their increase $122, counting those I have eaten (seven), and I now have fifty-four head. As to their habits, I prefer them to sheep for this country. They invariably come home every evening whether they range in my fields or out in the commons, and this alone would make them more profitable than sheep in this section, where dogs and wolves are prowling around everywhere. One of my neighbors lost sixteen head of sheep last week, the work of dogs or wolves, while his flock of Angoras were untouched, being at home at night. As to jumping, they have given me no more trouble than any other stock. I have all kinds of fences—wire, picket or slat, old worm or zigzag fences—but I always find them where I put them. They seem to be immune from all disease. Their meat is of the finest. Their wool (mohair) finds a ready sale, and to say I am pleased with them is putting it too mildly, and I would recommend them to all my brother farmers who are similarly situated. I intend to increase my flock, as I have quite a space of land to clear up that is yet in its virgin state.

E. L. Kenagy, Hubbard, Ore.—I find them profitable in more ways than one. They are death on sprouts and underbrush. Where timber and brush have been slashed and burned they will not allow a sprout to grow. I am using a flock of thirty-three on twelve acres of oak sprouts. The sprouts were three years old when I turned goats in, and after two years browsing they are mostly dead. Thistles and other noxious weeds are relished by the goats and they will not allow them to go to seed where they can get to them. I also find they pay a good per cent. on their cost and keeping by producing a nice fleece of mohair. And where one breeds for mohair it pays to breed the best grades. I find them hardy and easy to raise. And when we have outlived the prejudice against goat venison they will be as valuable for their meat as sheep.

C. L. Moss, Hammonton, N. J.—In speaking of Angora goats for cleaning brush land, I must say they are successful sprouters, as I had experience with them for 6 years in clearing about thirty acres of very heavy timber and many kinds of underbrush, in California. I slashed the timber; that is, just cut it down and trimmed it up in the Winter and Spring and let lie until Fall and then burned, after which I fenced so as to confine the goats where I wanted them to work, and as there would not be many sprouts until Spring, I sowed some orchard grass seed, which came up and made good picking for them all Winter. But as the Spring came the goats would be watching for the first sprouts to start, and then they would leave the grass and hunt the sprouts, which never got a start at all. I declare I never witnessed so complete a destruction of anything, as those goats never let a single stump sprout up, and there was oak, live oak, Spanish oak, madrona and young myrtle, which are all very hard to kill, especially the live oak, Spanish oak and madrona, which my California friends will bear me out in. But they killed them all and were all killed practically at the end of the third year. I bought seven or eight to start with, and as I got more land ready the increase of the flock was sufficient for my use. Their fleece, or mohair, should be clipped every Spring same as sheep, as it helps to keep them healthy and is valuable the same as sheep's wool. They should have a good shed or stable during storms and bad weather. I will take Angoras for sprouters every time. They are certainly a success. Some milk them and eat their over supply. The hide is valuable for rugs or robes.

W. H. Shanks, Stanford, Ky.—My experience with Angora goats is a very limited one, but it is an experience nevertheless, and a happy one. I have had them for two years or more and they certainly go for all kinds of brush and filth, and especially briars. The only thing they do not seem to love is hickory shrubbery. They will not eat it if they can find anything else. Anyone can see by following them an hour in the woods that they are filth consumers. Grass they will eat and do well on, but I do not think they prefer it. They are very prolific, but are not profitable except on land too poor or too filthy to handle any other kind of stock.

Wm. H. Wheeler, Greenleaf, Ore.—Angora goats would be profitable to me if I never got a pound of mohair nor any increase. With from a dozen to twenty days' feed of hay in the year, and no other expense, they save months of weary work grubbing in the clearing of new land. Thus they earn more than the same money's worth of any other kind of stock would. Put goats enough into a newly slashed field and in two years there will not be a living tree root in it, for they will take every leaf as soon as it appears, and roots cannot live long without leaves. Thistles, fern and young fir and hemlock trees all go the same way. If they have access to the fruit trees they will peel them, though mine have never seemed to get hungry enough to peel willow and other native trees. They will eat good grass, but they will not make more than half their ration of it if they have access to brush. One of my neighbors has kept a flock for years and has never fed them any hay or grain. He gets an average of three and a quarter pounds of mohair per head, young and old. They take about five years to reach maturity. He sent his clip to the mills in Maine and got 29 cents a pound, net. Those who sold here this year got 22 cents. Another flock here averages three and a half pounds and about doubles in number some years, though diseases have carried off a good many goats some seasons and some are caught by cougars. My best goat shears six pounds. I suppose there are many flocks that yield much more fleece than these hereabouts, but I think it is due more to difference in breeding than in feeding. Mine seem to care little for hay when they can get browse, but in very rainy days I keep them in. If fed much oats, of which they are very fond, they become lazy and lie around home instead of going out to browse. They climb log fences more easily than I can. A rail fence standing perpendicularly, though low, will turn them, as they will not jump high, but if it leans from them very much they will climb it. A stream of water that they cannot jump across will stop them, for they will not wade through water.

SUMMARY.

Our correspondents have stated the case of the Angora so plainly that there is nothing for the Editor to add, for he knows nothing about them from experience, never having owned one. The topic was suggested by a friend who had a notion to try them and wanted to hear from those who have. We heard last Winter, when in Maryland, of an experiment made with them there on a large scale that was thought to be turning out disastrously, and the goats were dying rapidly. Have not heard further from this experiment and am sorry that we have not more contributions from the eastern part of the country. It is evident from what our friends say that they do eat brush, but whether they will be profitable stock to keep on an improved farm is still a question. In some places the destruction of the brush is desirable, but we would not think that in any woodland that was to be kept as woodland the goats would be a good thing at all, for in all forest management the undergrowth is an important matter for the future of the forest. It is only in brush lands, where it is desired that the land be brought into cultivation without too great expense that the goats would be useful, and we would never advise turning them into permanent forest lands where they would be death to the future forest.

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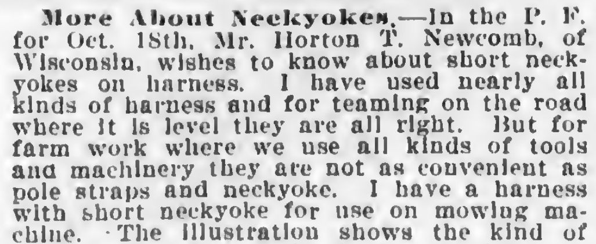
Farm Implement Annex
To The Practical Farmer.

It is the purpose of this department to assist P. F. readers in securing the best implements and machinery for doing their work, and to so adjust, manage and care for same as to get the best possible returns from their use. We invite subscribers to write us fully and freely in regard to farm implements and machinery. Pointers on selecting implements for various kinds of work and soil; on buying, operating and caring for them; their defects, improvements, attachments, adjustments, etc., will be welcome. A cash prize of 50 cents will be paid for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Put at top of each article For "Farm Implement Annex," and send to Geo. T. Pettit, Box 32, Oneida, Kan.

More About Neckyokes.—In the P. F. for Oct. 18th, Mr. Horton T. Newcomb, of Wisconsin, wishes to know about short neckyokes on harness. I have used nearly all kinds of harness and for teaming on the road where it is level they are all right. But for farm work where we use all kinds of tools and machinery they are not as convenient as pole straps and neckyoke. I have a harness with short neckyoke for use on mowing machine. The illustration shows the kind of neckyoke I have. A is the ring which goes on machine pole, while B B B B are small rings to snap the harness to. Neckyoke is 5 feet long, 4 inches in diameter at centre, 2 inches at ends. I do not think a team can back any more with this kind of harness than with pole straps and neckyoke. I think horses work better when the harness fits. Do not have it too small, neither too large. If Mr. N. wishes to know more about these neckyokes than I have told here, I will try to explain further if he will write me.

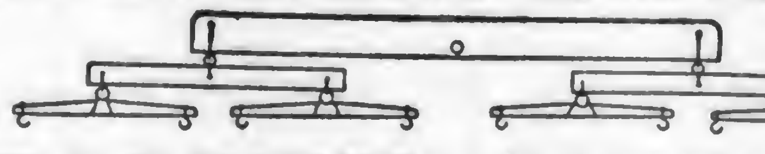


Windsor, Conn. MONTAGUE HAMM.

Implement Shed. — The importance of providing good sheds for tools and implements can hardly be too much emphasized. We have a 240-acre farm and it takes about $1,000 worth of machinery to run it, as we do not borrow. We had a large tool shed, but it was not sufficient. So as we were building a new crib for our corn, we put a shed 32 feet long and 14 feet wide along one side of the crib. This protects one side of the crib and makes a good shelter for wagons, plows and other farm machinery. We know of farmers who have not had a shelter for the wagon in thirty years, and the money laid out for new vehicles alone has been more than the cost of a good shed would have been. J. O. SHROYER.
Humboldt, Neb.

Farm Wheelbarrow.—This is one of our most useful tools. It can be bought at the hardware store for $1.50, or you can in a short time make one for less money. I made one which answers the purpose all right. For the sides I got two pieces of 3x3 scantling 5 feet long. These may be held together by rods or by mortising in two inch planks. I prefer the former method. The wheel may be obtained from an old sawmill or other old machinery, or one may be sawed off an oak or gum log about 16 inches in diameter, making the wheel 3 inches thick. The side planks are 1 inch oak boards 12 inches wide and 42 inches long. Nail a wood pin or stake on the sideboards 8 inches from the rear end and bore a hole in bottom of barrow for the pins to go in, thus the boards can be taken off when desired. Such a wheelbarrow comes handy in different ways. Whenever there is a load too heavy to carry and not worth hitching the team for, the barrow stands ready to help. It is handy about the stable to wheel feed, manure, etc.; also about the garden to cart vegetables, vines, etc., and is so cheap that the first day's work will sometimes pay for it. H. RAY MERCER.
Upton, W. Va.

Four-Horse Evener.—In reply to the inquiry of W. E. Wilhelm, published in the P. F. recently, I send herewith sketch of a 4-horse evener that will give entire satisfaction. The cut will explain itself.



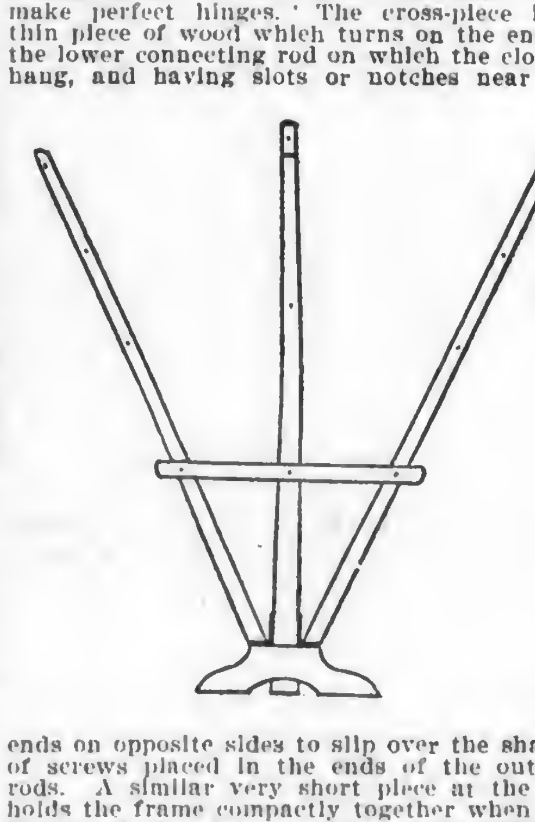
LaBelle, Mo. B. P. WAGNER.

Spraying Machine. — As I have been talking of getting a sprayer for some time I decided last Spring that I would wait no longer, but purchase at once. The machine which I selected is the Myers spray pump. I purchased it of an Indiana firm at an entire cost of $10 for barrel and all. The pump I find to be an excellent one and it will do all that is claimed for it; in fact, does perfect work. Since using a sprayer I have concluded that if I had only fifty trees I would have a good spraying outfit and spray my trees, as I believe it will pay.
Peoria, Ill. GEORGE R. PROCTOR.

Straw Rack.—I will tell the readers of the Annex how to make a very convenient straw rack out of an ordinary hay rack. Take two 1x6 boards and nail to the 2x4s under the outside boards of the hay rack. Now bore 1½ or 2 inch holes through both the top board and the one you have just put on, and make stakes of any desired length to fit in the holes. There should be from 4 to 6 stakes on each side; can be removed at will.
Watseka, Ill. O. E. WIERINGA.

The Plow in Sod Ground.—The Annex of October 18th contains a sketch of my 3-horse evener for use on a tongue, and I wish here to correct the description. The evener goes on upper side of tongue and the singletree and doubletree should exchange positions. Will give my way of plowing sod with a tongue sulky fitted with sod attachment. In plowing a 20-acre field I begin in the centre and back furrow. To measure for the first furrow I go along one side 18 rods and with a rod pole find the width, and half way a stake is set. Then I measure 18 rods from the end, which gives the starting place. Now the other end of field is measured, and then the plow (right hand) is started 2 feet to the left of centre. While plowing a strip 4 rods wide the plow is raised at the ends and a gee turn made; after this a haw turn is made at each corner. Plow can be turned in rods travel. F. AMES.
Deerfield, Wis.

Improved Clothes Horse. — The cut herewith gives an end view of an improved clothes horse. The opposite end is made just like the one shown and they are connected with rods of any desired length. The centre standard has a half-inch tenon at the bottom which fits snugly into a mortise in the foot-piece, while the outer standards are hinged at bottom. Short pieces of brass hooping fastened to the side of the centre standards and to bottom of the outer ones make perfect hinges. The cross-piece is a thin piece of wood which turns on the end of the lower connecting rod on which the clothes hang, and having slots or notches near the ends on opposite sides to slip over the shanks of screws placed in the ends of the outside rods. A similar very short piece at the top holds the frame compactly together when not in use. Such a frame as long as the width of a sheet has a capacity equal to that of a line 60 feet long. It can be easily moved when full of clothes, by closing it. There is no patent. E. E. LAWRENCE.



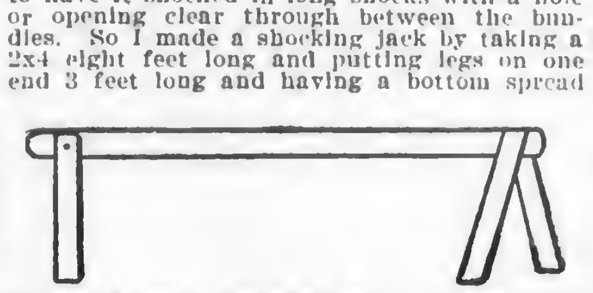
Spafford, N. Y.

Reversible Sulky Plow.—I have wondered many times why there are not more sulky plows in use. I have used a reversible sulky plow for several years and for the work which it is intended to do, it comes nearest being a perfect tool of any that I have seen. It will do good work in most kinds of plowing, is a great labor saver and I cannot see that it is harder on the team than the common plow, although I accomplish more with it. Some object to the reversible on account of the price, but I consider it money well invested. For such stony land as some of ours is I think it best to have the plow hung so it can run loose and play around the stones. The National is attached to the sulky with a hinge joint and can be set to run independent. I do not think the plow draws harder than a walking plow of same size, the sulky taking the place of the man at the handles. Or you can put all the weight of sulky and driver on the plow, which acts much the same as a man riding the beam and will hold it down anywhere. This, of course, makes it harder for the horses, but where it is comfortable plowing the plow should run loose and will do as good or better work and more of it than any walking plow that I ever saw.
S. Acworth, N. H. EUGENE N. CROSSET.

Convenient Handcart. — We made a very good farm cart at small expense, and anyone who needs anything of the kind may go and do likewise. We first bought two old cultivator wheels with the axle, then procured a suitable dry goods box and attached to the axle. The rear end of box was removed and attached with hinges so it can be let down. The handle or tongue was made of a stout pole and so arranged that we could take hold and pull or push when necessary. We found this cart very convenient on the farm for many purposes, such as gathering vegetables and often for the children to play with. NINA BOYSEN.
Glenwood, Ia.

Lantern Device.—The following I have have found to be a very safe and convenient way of using a lantern around the barn: Stretch a wire across the barn about 6½ feet above the floor, first slipping a common harness snap or hook loosely upon the wire. By the use of this simple device a person can have a light which will shine across the horses' backs. The lantern can be moved by simply sliding it along the wire. Some people will hang the lantern almost anywhere, often on a nail. And worse still, if they cannot find a convenient nail they will set it down. J. EDW. WOLFE, JR.
Gwenn Dale, I. T.

Shocking Horse.—We raise a good deal of Kaffir corn and sorghum here which we cut and bind with corn binder. The shocking of a heavy growth of these crops is no small task, especially when the weather is muggy as it was this year at that time. In order that the forage might cure out well I desired to have it shocked in long shocks with a hole or opening clear through between the bundles. So I made a shocking jack by taking a 2x4 eight feet long and putting legs on one end 3 feet long and having a bottom spread of, say 3 feet. On other end I put a single leg of the right length to hold both ends of 2x4 at same height. This third leg I attached to 2x4 with a single bolt so that in pulling it out of a shock this leg will turn back parallel with the 2x4. This simple device is a labor saver and with it we can make much better shocks than without.



Delavan, Kan. JOHN HOLT.

Implement Notes and Queries.

A. M. Gates, Branford, Conn., writes for information regarding a plow for use upon land that has some bogs on it. "Think I need a steel plow with circular or knife coulter. Can I, by grinding coulter and share sharp do good work with such a plow? I want a light two-horse plow.' A good steel plow will do your work if anything will. I would not advise you to buy a cheap, low-priced steel plow, for it is about the poorest kind of a plow and will not give as good satisfaction as a first-class chilled plow fitted with steel share. Some manufacturers of chilled plows furnish plows with wide, steel marsh shares when so ordered. But the best plow made for difficult soil is the soft centre, hardened steel plow, such as we use on the prairies. This plow is not so well adapted to stony land, but will scour where others fail. These plows are sold by the inch, and a light 2-horse, 12-inch plow will actually cut 12 inches wide when new. Where the soil does not contain stones and there is not much trash to cut through, the rolling coulter works all right on a walking plow. But in trashy ground, particularly if the trash is damp, a riding plow will hold it down to business better than a walker. I think perhaps a standing or "knife" coulter might suit you better than the rolling coulter. It should be made of good steel, not too thick, and the point set far enough forward so it will clear itself of grass roots. If you will take a good sized flat file to the field and use as needed on share and coulter, you will find it better than grinding. Steel shares and coulters should be carefully drawn by a blacksmith when they become too thick on the edge to work well. However, a rolling coulter would not require drawing for a long time, as they are made quite thin. Hardened steel shares should be hammered at cherry heat, heating only as much each time as can be hammered. Do not attempt to harden cutting edge after hammering, as this will only draw the temper from the body of share. The only way to harden a share is to heat the entire share equally and temper the whole thing at once. This requires knowledge of steel plow work, and a tempering compound is generally used. Do not attempt to harden common crucible steel shares or other wearing parts or they will break. Only the special soft centre plow steel can be hardened successfully. I would suggest that you write Oliver Chilled Plow Works, South Bend., Ind., as they make all kinds of plows, both steel and iron; and be sure to mention Farm Implement Annex of the P. F.—ED.

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LIGHTNING WELL MACHY IS THE STANDARD STEAM PUMPS AIR LIFTS GASOLINE ENGINES WRITE FOR CIRCULAR THE AMERICAN WELL WORKS AURORA ILL — CHICAGO — DALLAS TEX

SHORT CUTS.

BY PRACTICAL FARMER SUBS.

All other trades have resorted to "Short Cuts." To be successful farmers must resort to them, too. In this column we will publish all actual labor saving short cuts made by the farmer on the farm and the housewife in the home. Write and tell us of any labor saving tool you have made, of any method of management or manner of using implements to save time, labor and money, or increase their efficiency. Even the smallest things may be useful and valuable. Hints and helps in the household are always welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Write on postal cards and make articles short. All errors will be corrected by the editor. Address all communications under this head to T. Greiner, La Salle, N. Y.

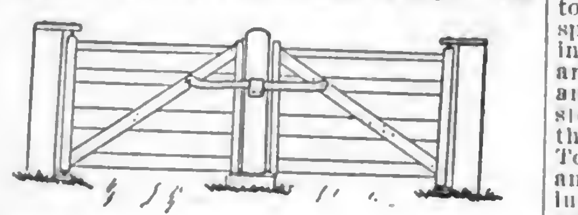
Driving Cattle Alone. — On farms where but few cattle are kept it is sometimes necessary in marketing a fresh cow, or taking them to a neighbor's at breeding season, to drive them alone, often by large bodies of timber or along unfenced fields of grain. To keep them under full control and avoid running after them through the timber and fields tie a small rope around body just behind forelegs, and another in front of hind legs. Take a long rope, any desired length, and run through ropes beneath body of animal, passing down front legs and tie ends around legs just above hoofs. When animal starts to run a pull on long rope will draw foot up, and by pulling both ends the cow or other animal will be thrown to ground on knees. The wildest and most vicious animal can be conquered in this way, as it is an easy matter to throw them on their nose by pulling both feet up when trying to run away. An animal never feels more helpless than when thrown to the ground and one or two throws is sufficient to conquer most of them. JAS. T. FLORY.

Nokesville, Va.

Household Short Cuts.—The sieve part of an old flour sieve makes a good colander. I took a short handle of an old dipper and fastened it on with tacks for a handle. An empty oyster can makes a good flat iron holder. Turn in the sharp edges and pound down smoothly. A small brush is an almost indispensable article in our household. We use it for brushing the cracks in fancy glassware. It brightens the glassware so much as it gets every particle of dirt out. We also use it on wash day for brushing the wristbands and collars of men's shirts; also for many of the other clothes. We use the scrub brush for the heaviest clothes. To patch a knot hole in the floor take a piece of tin large enough to cover it and tack on securely. GRACE PRICE.

Moores Junction, Mich.

Long Gate.—Make the gate in two parts, each one wide enough to pass a wagon through. Take a post about 6 inches thick and about as long as your gate is high; take a block 12 inches wide and 18 inches long and 4 inches thick; make a mortise in the middle and a tenon on one end of the post to fit the mortise. Fasten the block at the post, put the post in the middle of the gates.



Alliance, Pa. F. J. MCALLISTER.

Oil Everything.—In a damp climate linseed oil is one of the most useful things on the farm. A good coating of it will preserve iron, steel and wood machinery almost equally well. Nails and staples, if dipped in oil when used, will not only drive much easier but will last twice as long and will not pull out. Bolts and nuts should all be lightly covered with oil when put away and they will keep bright for years. Saws and augers should also be oiled as well as spades and shovels. The handles of all tools, if given a good coating of oil, will keep smooth and last indefinitely, even though exposed to the weather. J. W. WITHAM.

Clive, Ia.

Economy in Fuel.—Give up fireplaces. Only the wealthy can afford their waste of heat. Use drum stoves for wood—any make. Cut all saplings from within thirty feet of fences. Use these in sawed lengths for stoves. They are especially good. Hunt up all waste wood. Don't let it rot. Drum heaters will burn any chunk. When stoves are used in adjoining rooms have pipe same size and run first into T in second. Don't economize on pipe. The longer the pipe the more heat you gain. Run pipe through a section of clay piping when passing through wall. Burn mixed wood, viz., green and dry, never all of one kind. Tie kindling or pine splinters in bunches, one for each morning, to avoid waste. If no pine is obtainable, stored dry leaves, sunflower stalks, etc., kindle fires very well. JANE BRYAN.

Dillon, Ga.

Woolen Blankets.—If you have a pair of old woolen blankets that seem to have outlived their usefulness, put them together so that side of one is at the end of the other, or so the thin places will not come together. Turn in any place that overlaps and knot closely with cheap woolen yarn. This is warmer than the average cotton comfort and not so hard to wash.

Steubenville, O. MRS. F. RHINEHART.

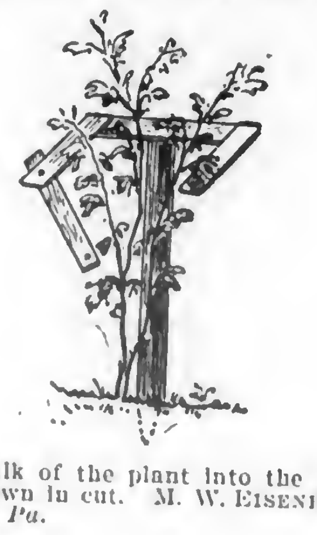
Shoveling Snow.—I have just put in a full day shoveling through the drifts to restore communication with the big world, using a greased scoop shovel, as suggested by a lady contributor to the Short Cuts Dept. years ago, and want to say that the suggestion has been worth the subscription to the P. F. every year since she gave it. We warm the shovel a little and rub it with a bit of tallow, and the snow, wet or dry, does not stick. This suggests another, the oiling of the inside of the shoes and feet of horses with a brush dipped in warm lard or oil before driving in soft snow. It effectually prevents "balling" and falling. W. H. BLACK.

Flora Dale, Pa.

A Short Cut for Knitters.—To wind a witch ball wrap the wool four or five times around your fingers, loosely, then remove from your fingers and build your ball upon less than half the length of the long loops, until your entire skein is wound, being always careful to keep the other half of the loops projecting from the ball. When ready to knit or crochet, pull out the bunch of loops from the ball and begin with the inside end of the wool. The ball will unwind from the centre instead of the outside, and will behave beautifully, staying quietly on your lap instead of rolling about, jumping onto the floor, etc. It will be easy to keep clean and as bidable as though "bewitched."

Berlin, Md. R. P. HANDY.

Plant Supporter.—This is a handy article to keep large plants from falling to the ground. Drive it into the ground and then put the stalk of the plant into the trap and shut as shown in cut. M. W. EISENHOWER.



Alliance, Pa.

Replacing Wooden Tubs.—I have had so much trouble with wooden tubs going to pieces in spite of all precaution, so that a few years back I replaced them with galvanized tubs. After years of trial I could not be induced to go back to the old tubs. The zinc tubs are light, have good, strong handles, can be quickly washed and hung up out of the way, and I find them very durable, having used one for eight years without a leak. They can be purchased in any size you wish and a large one serves us as a bath tub. When through using it two persons can, by the handles, carry out and empty, when it will be ready for use again. "A poor substitute for a bath room," you say. Well, I want a bath room, but while I am waiting for it, I will take my "tubbing." If you will try the zinc you will dispose of old wooden tubs with bursted hoops.

Warren, Ark. MRS. R. J. VENABLE.

How to Use Dry Bread.—Bread that is too dry for the table may be cut into slices, spread with butter and laid in an iron baking dish. Sprinkle lightly with cinnamon and sugar and add half a pint of good milk and put on stove. Put on cover to keep in steam and watch to prevent burning. When the bread has absorbed the milk it is done. To make milk toast, cut slices of dry bread and toast brown. Heat half pint of milk into which put a small lump of butter. Sweet cream and a little salt may be used instead of butter, if preferred. Dip each slice of toast into the heated milk and place in dish. If any milk is left pour over the toast. For bread pudding, take three slices of dry bread, spread with butter and cut into small pieces. Add half cup of raisins; make custard with two eggs, one pint milk, sugar, salt and nutmeg to taste. Pour the custard over the bread in the pudding dish and bake one-half hour. MRS. EGBERT N. MOORE.

Uncasville, Conn.

Easy Way of Washing.—Put clothes to soak over night in a suds made by boiling two tablespoonfuls of gasoline with some soap, either hard or soft. In the morning rub them out and put to boil in another suds made the same as the first. The gasoline loosens the dirt and makes the rubbing much easier. In washing the common way use one-half cup of the following washing fluid: One ounce of ammonia, one ounce of salts of tartar, one box of concentrated lye, one gallon of boiling water. Pour the boiling water over the other ingredients, which have been placed in a jar. It will only cost a few cents and will take less soap and last a long while.

Richland City, Wis. A. E. BILLS.

Cheap Cistern.—Instead of having rain barrels above ground to freeze hard in Winter and get warm and malodorous in Summer, I sink them in the ground. I have two side by side and reaching far enough above the surface to allow a frame of 2x4 feet covered by a tight floor to fit over their tops. The floor is hinged on and opens up as a cellar door. This furnishes a considerable amount of soft water which would otherwise have to be carried or hauled, as I have no cistern.

Findlay, Ill. J. F. WILLIAMS.

Making the Broom Last.—Care and economy should be practiced in all things, and yet how often we see carelessness in handling the broom. There is a great deal of difference in the quality of work that brooms will do and the time they last. This is all due to the way they are used. A broom should never be set in the corner after using; this bends the straw over and causes it to become one-sided. Have a string or some other device on the end of the handle to hang up by. This will greatly lengthen its usefulness, make the sweeping much easier and save your carpets by having a straight broom. Wash your brooms at least once a week, not with soap, as it may cause your carpets to fade, but with a good washing powder. Dip the broom up and down until the straw appears perfectly clean, then hang up to dry, and when going to use the next time you will think you have a new broom. This kind of treatment will cause them to last twice as long. THOMAS PATTON.

Mosgrove, Pa.

A Nervous Woman

Will often feel compelled to stop the clock whose ticking seems unbearable to her. In such a nervous condition the woman needs a building up of the entire system. It is useless to attempt the cure of the nerves while the cause of the nervousness remains uncured. A very common cause of nervousness in women is a diseased condition of the delicate womanly organism.

Dr. Pierce's Favorite Prescription cures womanly diseases and the nervousness which they cause. It changes irregularity to regularity, dries the drains which weaken women, heals inflammation and ulceration and cures female weakness. It is a perfect tonic and nervine, tranquilizing the nerves, promoting the appetite and inducing refreshing sleep.

"When I first wrote you I had been to three different doctors and two of them said I would never get better without going to the hospital for an operation," writes Mrs. Selma Erickson, of 496 Rice Street, St. Paul, Minn. "Was not able to do anything. If I would get up and walk to the kitchen and back I would have to lie in bed for a day or sometimes two days. Now I have used six bottles of Dr. Pierce's Favorite Prescription and six of the 'Golden Medical Discovery,' and the result is just wonderful. I was so nervous I had to have some one by my side all the time even in day time, and I could hardly eat anything. I took treatment from a doctor twice a week, and every time I would go there I felt so sick, but since I quit all the doctors and began taking your medicines I gained right along. I weighed 125 pounds, when I began taking your medicines (in August) and now I am up to my usual weight 165. I am as well and feel as good as ever."

FREE. Dr. Pierce's Common Sense Medical Adviser is sent *free* on receipt of stamps to pay expense of mailing *only*. Send 21 one-cent stamps for the book in paper covers, or 31 stamps for cloth-bound volume. Address Dr. R. V. Pierce, Buffalo, N. Y.

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Mistakes, Failures and Successes.

In this department we publish the Mistakes, Failures and Successes of our subscribers. They are equaly instructive and necessary, pointing the way to success. Subscribers are cordially invited to send accounts of efforts they have made which resulted in failure, as well as those which proved successful. Give in a few words your experience of anything connected with farm or household work. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Only helpful communications of value to P. F. readers will be accepted. The head of the column will be considered the position of honor each week. Send all communications to Geo. T Pettit, Oneida, Kan.

Some Points on Growing Alfalfa.—There is being a great deal written about alfalfa in different parts of the country, but there is one important point that I have never seen mentioned, and that is that alfalfa will not prove a success where there is hardpan anywhere near the surface. If the roots strike hardpan within 6 to 10 feet, they will begin to die. It may live a year or two, but will begin to die sooner or later, according to the distance to hardpan. I have lived in six of the Western States where alfalfa is a success and without exception it is grown where there is no hardpan. Nearly all the irrigated valleys of the West have at some time been filled in with soil washed from the mountains, hence there is no hardpan, and here is where alfalfa is seen at its best. The only exception that I have met with is the bench lands of the Boise Valley, Idaho. There hardpan is found close to the surface and the farmers have given up raising alfalfa and raise timothy and clover, although alfalfa is raised extensively on the bottom lands.

Grand Junction, Col. H. L. SAVAGE.

My Good Vinegar.—When paring apples I save the parings, put them in a jar, pour some water over them, let stand about two days, or until it begins to work, then pour off and strain into jugs, adding enough white sugar to give it a sweetish taste. Tie a cloth over the mouth of each jug, set in a warm place and it will be vinegar in a short time. It is pure and clean and I much prefer it to vinegar from cider made as it usually is, from wormy, faulty and rotten apples. If the parings are from white or yellow apples the vinegar will be light and clear and will not turn pickles dark. If you have plenty of apples you can slice them up and use as I do the parings. Do not let them stay in the water too long or it may make the vinegar bitter. MRS. M. C. SPARKMAN.

Middle Fork, Tenn.

That Sticky Bread.—In the P. F. of Sept. 6th Mrs. Bornmeier thinks she has found the cause of a peculiar "sticky" condition of bread after it is two or three days old. Well, I never saw or heard of such bread until this Summer, when ours answered that description. And as I have for years kept my bread in a tin wash boiler to keep mice from nibbling at it, that is not a preventive. My mother always told me that new potatoes were "not good for bread," without specifying in what way they were objectionable, so I had never used them until this season. So many old-time observances can be set aside as "notions" that I put new potatoes for bread in that class and experimented by using them. Whether or not that was the cause of the stickiness I am unable to say, but to that I attribute it. If any one is able to give definite information on the subject, I am sure it will be gratefully received. MRS. E. S. E. SLOAN.

Clarion, Pa.

A Mistake with Turkeys.—Let me tell you of a mistake that I made one of the first years I raised turkeys. I had 16 nice turks about a month old when I discovered they were covered with lice. I remembered to have read somewhere that lard and sulphur would kill lice, so I at once mixed some, and with the help of a colored girl caught each turk and anointed it with the mixture on head, neck and under wings and legs. When we had finished I said, now Polly, we will put some of this on those little chicks, too. She replied, "Law no, Miss Annie; if you does it will sure kill 'em." I asked her why she thought it would kill them and she said: "'Cause mamma put some lard and sulphur on some chickens once and it killed 'em every one." I told her she should have told me that sooner, for if it killed chickens it would also kill turkeys, and her answer was: "Well, I don't know anything about turkeys, 'cause we never had any, and of course I thought you knew what you was about before you started." I felt badly about it as I had never seen the remedy tried, and watched those turkeys pretty close. Well, they did not die, but they got droopy and stiff looking and did not run, jump and flap their wings as they used to do. Picking one up one day I found hard scabs on its neck and under wings and legs. The mixture seemed to have eaten into the skin and made large sores. I bathed each one, then rubbed all sores and scabs with vaseline daily until they quite recovered the use of their wings and legs. I think that little darkey girl's advice would be good to take as a motto in many things besides doctoring turkeys. "Be sure you know what you are about before you start." Fresh insect powder rubbed well into the down and feathers is the only thing I use for lice now. It is safe and effective.

Farmville, Va. MRS. E. B. LANGSLOW.

Killing Hard Corns.—Last Spring I had a hard corn come on my toe, on the inside, and it was extremely painful. I took my razor and pared it down as thin as I could, then put a rag around the toe, tied it on and twice a day for a week I wet the rag over the corn with spirits camphor. This treatment killed the corn so I have not a trace of it now. Camphor will also dry warts up so they will come out. E. TENEYCK.

Reading, Mich.

Breaking Colts. — Take a well broken horse out with the colt into a field; tie a strong rope around the horse's neck, put a good rope halter on the colt and tie to the rope around the horse's neck. Lead them around the field several times, then bring them in and let them rest a while. Then hitch to a wagon and put on small loads at first so the colt will pull all right. After you have worked the colt double, try it single. Hitch him to a dog cart and drive him along, another horse walking with him until he becomes accustomed to it, going alone. Drive him the next day and the next, about an hour each day until he gets used to the work. We have been successful with this plan. ELLSWORTH H. MISH.

Inwood, W. Va.

Angora Goat Failure.—Some N. Y. gentlemen having heard about Angora goats and the profits to be derived from keeping them on brush land, formed a company and bought a carload of the goats. They bought a farm from one of our neighbors, fenced a pasture, put the goats in and hired a sick man to look after them. In less than a year about three-fourths of them were dead. There were several causes for the failure. First, starvation; second, being brought from the South, they were unable to stand this cold climate; third, there were too many goats for the land they had fenced. MRS. O. H. WEBBER.

Tolland, Mass.

Those Leather Suspenders.—I saw in many papers an advertisement of the leather adjustable suspenders. Any repairs needed within twelve months to be sent free, etc. I sent for a big lot for myself and boys, and they stained our clothes till they were perfectly disgusting to look at. Not only this, but the perspiration soon caused the suspenders to break. So I advise P. F. readers to let leather adjustable suspenders severely alone. I am loser by $5 on same, and all our shirts terribly stained; and no washing will take it out. W. E. EMBRY.

Dade City, Fla.

Not Enough Seed.—After years of experience I am convinced that few of the farmers of this East Tennessee country use enough seed per acre, especially of wheat and oats. I have used all the way from three to seven pecks of wheat and am satisfied that not less than six pecks of wheat should be sown to the acre unless it is sown very early, which endangers the crop. For some years the fly has been destroying early sown wheat. Even with wheat cleaned and graded as well as it is possible to get it, some will fail to germinate, the insects get some and some freezes out, so that seed should be used freely. I remember that some years ago I had some oats sown by a neighbor, as I could not be at home, and the drill ran about two bushels or more, as I now remember it, and I have never since raised as good a crop of oats. Two years ago I lost much by not getting on enough seed. S. B. FICKLE.

Thom, Tenn.

Shallow Plowing. — Last Spring we planted our corn in two different fields, one field being plowed with two-horse plow, the other with a one-horse plow. The former was the poorer soil, but it remained mellow and did not get grassy and the corn did not wilt much all Summer. This field produced a good crop of corn. The other field, which was plowed with the one-horse plow, got grassy and so hard we could scarcely work it. As soon as there were a few dry days the corn looked as if it would dry up. However, the Summer turned out to be unusually wet and this field made a little corn.

Knoxville, Ark. S. M. BROWN.

Wholesome Candies. — Try making some delicious, cheap and wholesome candies for the children. To make foundation for several kinds of nice candies boil together in granite vessel four cups granulated sugar, one cup water and two teaspoonfuls cream of tartar. Do not move or stir while boiling, and from time to time wipe off the crystals that form on sides of pan, using a damp cloth wrapped on a stick or fork. After boiling a few minutes carefully dip a straw or knitting needle into it and if it drips in fine, hair-like threads it is done. Wipe off the crystals and pour at once into a crock or any stone vessel. Let stand until somewhat stiff, but not entirely cold, then beat with a wooden spoon until it is white and glossy and stiff. Now knead it as you would bread till it is a smooth ball, using a very little corn starch if necessary to keep it from sticking to the bread board. Press down in a stone jar and cover closely. It is better to stand a week or ten days, although it may be used at once if so desired. Different kinds of candies may be made by using different flavorings, mixing with chopped nuts of any kind, mixing in cocoanut or melted chocolate. Delicious chocolate creams are made by dipping small balls of the mixture into melted chocolate and placing on oiled paper to harden. Or some of the fondant may be melted over hot water and peanut, English walnut or other nut meats dipped into it and placed on oiled paper. It may be better to experiment with only one-half or one-quarter this quantity until one learns just how to make the fondant successfully. SYBIL MCFARLAND.

Utica, O.

Making Soap. — When you make soap again try this plan: Put all scraps and salty grease into an iron or granite kettle. Now put a teaspoonful of lye in three gallons of water and pour this over the grease, then boil till the grease is absorbed by the lye. Set out to cool, and when cool skim the grease off. Now follow the first recipe on Lewis lye can, and you can make soap in 20 minutes, which is much better than that which is boiled. MRS. JOHN J. GRIFFITH.

Dawn, Mo.

First Plant Some Fruit.—One of the most common mistakes to be met with all over our country is the failure of so many of our people to plant some fruit trees and vines as soon as they come in possession of a home of their own. Then it is but a short time till their families will be supplied with fruit if they will only plant. Four to five years with us will bring apples; 3 to 4 years will bring peaches, pears, plums and grapes. Then there is the luscious strawberry only one year from planting, and what a pleasure it is to see the children and the older folks as well, eat. Those who are unable to buy fruit trees can grow their own with very little labor. We now have apple, peach and grapes growing and bearing fruit that we propagated ourselves. We find pleasure in planting grape seeds and watching to see what kind of fruit we will get. They fruit the third year if well cared for. Have very early and very late grapes grown from the Concord seed; some black, some white, some red; some good and some not. We have peaches from July until October and the latest are the best, many weighing one-half to three-quarters of a pound each.

Ranes, Ark. W. H. RANES.

Mulching Strawberry Bed.—A great many people make the mistake of not mulching the strawberries. Get good, well rotted manure and all the litter mixed with poultry droppings from hen house, mix with straw or leaves and apply between the rows. Water can be applied on this mulch with the hose, which will dissolve plant food in the manure. The best time to apply the mulch is as soon as the ground begins to freeze; and it should be distributed evenly over the plants so all will be covered, but do not make the mulch too thick, not over two inches deep over plants. In favor of mulching are cleanliness, moisture, a longer bearing season and a larger, handsomer berry.

Zelda, O MRS. ADA H. PARKER.

Keeping Meat.—Let the meat lay in salt for about six weeks after butchering, then hang up until dry. Here the skipper gnat comes by the first of March or before, and the meat must be put away permanently before that time. Have a large wash kettle of boiling water, take the meat down and dip it into the water, then wipe dry with a cloth. Put pulverized borax in a pepper box and sift on the meat while it is still damp. Be sure to get the borax in every place and you will have no trouble keeping skippers out of your meat. J. A. KIRKMAN.

Grandview, Tenn.

Renewing Furniture. — Wife complained that the furniture looked dingy. I answered "too much damp cloth." Poured two ounces 95 per cent. grain alcohol in a saucer, gave her a soft cotton cloth and told her to dip and squeeze just so it would not drip. Rub gently, not more than twice over the surface. Dip often and squeeze out well to rid the cloth of dirt. Do not rub hard, as it will quickly take off the varnish. Allow it to dry. The two ounces made the furniture of two rooms look like new.

St. Louis, Mo. DR. W. J. HAYNES.

Pigs in the Orchard.—By turning our apple orchard into a pig run we raised 17 pigs this year at small expense. Apples, grubs and grass all went into pork with profit to the trees, the apples, the pigs and the owner. One of the results was good apples. Next year I intend sowing the open spaces to rape and peas, fencing them off and pasturing with pigs when they are ready. I would like to know if it is a good plan to sow rape early in the Spring and pasture it as soon as ready, then sow and raise a second crop for late feeding.

Niagara, Ont. JAS. SKELTON.

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Schoharie Co., N. Y., 45 miles from Albany. Eleven inches of snow on the ground. Most farmers well up with their work. Apples a good crop; 25,000 barrels in storage in this town; 75c. to $1 per bbl.; potatoes scarce, 70c. per bu.; hops are a good price; 100 bales sold for 30c. per lb.; only a few large crops remain unsold; it is estimated that only about one-third of present crop remains in growers' hands. Hay, loose, $12 to $13; No. 1 rye straw, $8 to $10; oat, $6 to $8 per ton; butter, 22 to 25c. per lb.; eggs, 22c. per doz.; cheese, from 10 to 13c. per lb.; flour, from $3.25 to $4.75; rye flour, $3.50 to $3.75 per bbl.; good milling rye, 55 to 58c. per bu.; buckwheat, $1.30 to $1.40 per cwt.; corn, Albany inspection, No. 3 yellow, 68c. per bu.; bran, sacked, $19; middlings, sacked, $18 to $21 per ton; rye feed, 90c.; corn meal, $1.25 to $1.30; good milling buckwheat, $1.30 to $1.40 per cwt.; horses, from $25 to $150; fancy matched teams higher; cows, $30 to $50 each for Springers; coal, $7.25 per ton, and scarcely any stock. L. E. WINSLOW.
Cobleskill, N. Y., Dec. 30, 1902.

Situated in Anson Co., near the South Carolina line. Farmers are in good shape for another year. Corn crop very good; wheat light crop; oats good; cotton about two-thirds of a crop; all gathered; mostly sold; sweet potatoes average crop; Irish potatoes fine; we planted Bliss's Triumph in the Spring; in August planted our Fall crop from seed of the Spring crop, and never had finer. The past Fall was an ideal one for maturing and gathering of all crops. No frost to do any damage until Nov. 27th. Prices: Wheat, $1; corn, 50c.; oats, 55c.; peas, 75c. to $1 per bu.; horses, $100 to $150; cows in milk, from $25 to $50 each; dry cows and steers, 2½c. per lb. on foot; chickens, 30 to 50c. apiece; eggs, 20c. per doz.; butter, 20c. per lb.; sweet potatoes, 50c. per bu.; sorghum, 40c. per gal. This is the season of the year when Northern farmers should buy their cow peas, before they go up in price. T. J. WATKINS.
Poplar Hill, N. C., Dec. 27, 1902.

Northwest Pennsylvania, Crawford Co. A good mixed farming and dairy country with stock raising; good many colts raised, and hogs and cattle shipped out every week. Some fine butter and cheese made. More silos going up every year; had ours nine years; cost $50, but paid for itself every year. Hay moderate crop and badly put up; $8 to $9.50 per ton; wheat fair; oats good crop; corn spoiled by wet season; potatoes one-half yield of full crop; some buckwheat. Stock went to full Winter feed first week in December. November very warm. Farm work well along. Fat cattle, 3½ to 4c.; hogs, 5 to 5½c.; lambs, 4½c. per lb.; wheat, 80c.; corn, 60c.; buckwheat, 50c.; oats, 35c. per bu.; butter, 25 to 27c. per lb.; eggs, 25c. per doz. Many farmers will buy corn; other feed plenty. Farmers would drain land and do much more work, but help cannot be had for money. The iron mills get everything loose. D. M. SHONTZ.
Conneaut Lake, Pa., Dec. 29, 1902.

Charlton Co. is located in North Central Missouri. Crops of all kinds above an average this year. Prices for everything except wheat are fair. Corn is now selling at the railroad for 33c.; oats, 25c.; wheat, 56c. per bu.; hay, $6 per ton; butter, 20c. per lb.; eggs, 20c. per doz. A heavy emigration from Iowa and Illinois, and as a result, land has advanced. Much land now changing hands at from $45 to $55 per acre. Less desirable land further from railroad selling at from $30 to $40 per acre. NATHAN CLAIR.
Newhall, Mo., Dec. 27, 1902.

Bentonville, Benton Co., Ark., 1,400 feet above sea level. Northwest county of the State. Two railroads run through the county from north to south and one east and west. Population, 35,000. 135 public schools and 4 academies, with plenty of churches and Sunday Schools (but no saloons) to encourage good citizenship. The banner county in the world for fruit; 3,000,000 fruit trees which had good crops last year and this; 60,000 barrels of apples now in cold storage. Apples are worth $1; corn, 40c.; wheat, 65c.; potatoes, 60c.; sweet potatoes, 50c. per bu.; eggs, 20c. per doz.; butter, 25c.; meats, 10 to 15c.; hogs, 4c. per lb.; cows, $25 to $50 for Jerseys; horses, $30 to $150; mules, $60 to $150 each. Unusual weather; cloudy and rainy this Fall, preventing farm work. First killing frost Nov. 27; four inches snow Dec. 3. W. B. YOUNG.
Bentonville, Ark., Dec. 26, 1902.

After one of the driest Summers we have experienced one of the wettest Falls, but this is model Texas weather. First frost Nov. 27. Cotton, main crop, is about gathered and short 10 per cent. Many farmers from East settling here and planting orchards which are paying well. Much reading among farmers; P. F. spreading out slowly, and outlook is bright. We raise two crops cow peas each year. Prices as follows: Cotton, $7.40 per cwt.; corn, 60c.; wheat, 75c.; oats, 45c. per bu.; hay, $6 to $10 per ton; chickens, $3; eggs, 20c. per doz.; hogs, 7c.; beef, 2¾c. per lb., gross. WM. W. BRANOM.
Danner, Texas, Dec. 25, 1902.

Lamoille Co., Vt. Very cold weather; mercury went down 24 degrees below zero on Monday, Dec. 8th, and the wind blew a gale; it was the coldest known for the time of year for over 90 years. Snow enough for good sleighing. Stock plenty and very cheap. Drovers bought cattle and sheep for 1c. per lb. State quarantined on account of foot and mouth disease, and all stock has to be shipped to market dressed. Farrow cows, $12; cows coming in in Spring, $15 to $18 per head; lambs 75 pounds and over, 3½c.; 65 pounds, 2¼c.; beef, 5c.; hogs, 7c., dressed; butter, 25c. per lb.; eggs, 27 to 30c. per doz.; potatoes, 50c. per bu.; hay, $10 per ton; corn meal, $1.40; beans, $1.10; cotton seed meal, $1.50 per cwt.; flour, $4.75 per bbl.; farm help scarce at $1 per day and board. A. S. MOORE.
Morrisville, Vt., Dec. 29, 1902.

Located in Tioga Co., 5 miles west of Wellsboro, the county seat. Cold, wet Summer, but as nice a Fall for doing work as have had for many years. Have had good sleighing since Dec. 6th; snow is 14 inches deep. Hay and corn were less than three-quarters crop; oats good; potatoes one-half crop; apples good. Prices: hay, $10; straw, $4.50 to $5 per ton; oats, 35c.; corn, 60c. per bu.; buckwheat, $1.15 per cwt.; turkeys, live, 12½c.; chickens, 10c.; hogs, dressed, 8c. per lb.; fat cattle scarce; good horses $100 to $200; cows, $20 to $40; sheep, $2.50 to $3 each; lambs, 4½ to 5c. per lb.; eggs, 28 to 30c. per doz.; butter, 25c. per lb.; wages are high; good help scarce at $1 to $1.50 per day; house help, $3 per week. JAS. E. FISCHLER.
Spicewood, Pa., Dec. 29, 1902.

This part of the State is known as the piney woods, but since nearly all the pine trees have been cut and sent to Northern markets, the people are turning their attention more to farming. Cotton is king no longer here, for the peanut has come as a staunch rival. Peanuts are a great hog food and thousands of hogs are fattened on them every Winter. Many cattle are raised here and are profitable, as they have to be fed only about two months in the year. Beef is worth 5 to 6c.; pork, 7c.; peanuts, 2¼c. per lb.; corn, 60c.; cow peas, $1; cotton seed, 25c. per bu.; wages, $6 to $10 per month. Crops nearly all gathered. People industrious and prospering. J. B. JONES.
Roxobel, N. C., Dec. 27, 1902.

Located in Southeastern Kansas. We have had an excess of rain all Summer, Fall and thus far in the Winter. Most of the flax was lost and much wheat and oats damaged by wet weather; corn is usually good, but a good deal still in the field. First freeze to bite tomato vines, etc., came Nov. 27, which is a month later than usual. Considerable improvements going on in Parsons and vicinity. A new $10,000 Y. M. C. A. building is nearing completion in Parsons. Work is being pushed on the new State Asylum for Insane near the city. Eggs, 22c. per doz.; butter, 22c.; hens, 7c.; hogs, 5½c.; cattle, 3½ to 4c. per lb.; wheat, 60c.; oats, 26c.; corn, 31c.; potatoes, 50c. per bu. C. D. LYND.
Parsons, Kan., Dec. 25, 1902.

Located in Grainger Co., East Tennessee, near Clinch Mt. Crops very light this year, owing to drought. Prices as follows: Corn, 50c.; wheat, 70c.; oats, 50c.; potatoes, 60c.; peas, $1 per bu.; milch cows, $20 to $40; horses, $50 to $100 each; hogs, 6c.; chickens, 8c.; butter, 20c. per lb.; eggs, 22c. per doz. We have had a fine Fall for work. Wheat and rye looking well. Much lumbering is being done on Clinch Mt. Wages, 50c. to $1 per day. RICHARD C. CAMFOR.
Tate Spring, Tenn., Dec. 25, 1902.

Located in Hall Co., 2 miles south of Gainesville, on the Southern R. R. Very nice weather except occasional rains; the coldest weather we have had up to this time was 30 degrees above zero. Wheat all up and looking fine and a good acreage. Very few oats sowed in this section. Rye looking well. Prices are about as follows: Cotton, 8c. per lb.; cotton seed, 22c.; wheat, $1.00; corn, 50 to 60c.; oats, 65c.; rye, 75c.; sweet potatoes, 35c. per bu.; pork, 8c. per lb.; chickens, fries, 15 to 20c.; hens, 25 to 28c. each; eggs, 20c. per doz.; butter, 15c. per lb.; hogs, scarce and high; pigs, 5 to 6 weeks old, $5 per pair. Land high, from $10 to $30 per acre; wood, $1.75 per cord; farm labor, 50c. per day. Good schools and churches. Very little Fall plowing done, except sowing of grain, owing to wet weather. Success to the P. F. J. A. SLOAN.
Smitum, Ga., Dec. 29, 1902.

Located 22 miles south of Lancaster City, county seat. Have had some very cold weather; at present it is warm and very wet. Wheat looking fine. Some fly. Oats fair; hay short; potatoes good; apples good, but not keeping. Prices: Wheat, 70c.; corn, 40c.; oats, 35c.; potatoes, 60c.; apples, 60c., per bu.; hay, in wire, $14 per ton; turkeys, 12 to 14c.; chickens, 10 to 11c. per lb.; eggs, 28c. per doz.; butter, 25c. per lb.; pork, $7.50 per cwt.; dressed cows, $25 to $60; horses, $25 to $175. Farm help, scarce in kitchen and outside. HARRY FAIRLAMB.
Fairmount, Pa., Dec. 30, 1902.

We are situated 3 miles from Mexico, N. Y., in Oswego Co., and 4 miles from Lake Ontario. The past season has been unusually wet and cold, although we had very nice weather through November. Very little corn matured. This is principally a dairy section, milk being sold to creamery situated in the village of Mexico, with an output of 2,500 pounds of butter per day. Prices as follows: Butter, 30c. per lb.; eggs, 25c. per doz.; potatoes, 70c.; oats, 45c.; corn, 61c., per bu.; hay, $10 per ton; pork, dressed, $7 per cwt.; shorts, $19 per ton. Fine sleighing now. Snow about 1½ feet deep on a level. Farm help very scarce. BERT VORCE.
Mexico, N. Y., Dec. 29, 1902.

Located in the northeast county of the State, 3 miles from Conway, the county seat, which is booming greatly at the present time, on account of the prosperity of farmers, who are growing tobacco, strawberries and truck crops, all of which have been started within the last 3 years. We had our first killing frost some days ago, and at present we have bright, sunny, Summer weather. Strawberries have been growing and blooming up to the present, with occasional ripe ones. Cow peas, 80c.; corn, 95c.; sweet potatoes, 40c.; Irish potatoes, $1.00, per bu. Quite a colony of Northern people settled here and doing well. E. J. GLANZ.
Conway, S. C., Dec. 29, 1902.

Located in Champaign Co., in the great corn belt. An immense crop, but not all gathered on account of bad weather. Land sells from $125 to $150 per acre. Prices: Hogs, $5.50 to $5.70 per cwt.; corn, 36 to 38c.; oats, 26 to 27c., per bu.; turkeys, 12c.; chickens, 9½c., per lb. Hired help, $18 to $20 per month. The State University is located at Champaign. Our county has been selected by the Postal Authorities as the representative county of the State, by which the mail will be delivered to every house in the county. MRS. SUE CONGLETON.
Tolono, Ill., Dec. 29, 1902.

The land in this country is mostly rolling, with some flat or swale land. Is generally very fertile, producing all kinds of cereals and vegetables and hay. Is well watered by springs and mountain streams and the best of wells. The people are enterprising and possessed with modern ideas. Electric railways, electric lights and telephones are being constructed all over the western half of county. Land is advancing in price. Improved land being worth from $25 to $100 per acre, owing to location. The weather was very dry up to November 10th; since then have had lots of rain, but no freezing up to date. Prices: Pork, 5½ live and 6½ dressed; chickens, 9 to 10c., live weight; turkeys, 14c., per lb.; cows, $30 to $50. E. L. KENAGY.
Hubbard, Ore., Dec. 24, 1902.

Located in Northern Illinois, 88 miles west of Chicago, on the C. & N. W. R. R. Farming and stock raising the principal industries. This season was unusually wet in this section from May 1st to October 20th, putting farmers back with their work fully four weeks. On account of soft ground, hundreds of acres of oats were left in the field. Hay was put up in bad shape, some farmers using six horses to draw a load. Soil is a black loam, worth from $80 to $150 per acre. Prices: Corn, 42c.; oats, 29c. per bu.; hay, $10 per ton; potatoes, 50c. per bu.; butter, 25c. per lb.; eggs, 23c. per doz.; fat cattle, 4 to 4½c. hogs, 6c. per lb., on foot; cows, $30 to $50; horses, $50 to $180 each. Wood advanced from $2.00 per cord to $4.00, on account of hard coal famine. We have zero weather at present, and 2 inches of snow. Lots of corn to husk yet. OTTO G. PETRIE.
Franklin Grove, Ill., Dec. 29, 1902.

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"For the land's sake"—use Bowker's Fertilizers. They enrich the earth and the men who till it. Address nearest office, Boston, New York or Cincinnati.

Located 3½ miles south of Harbor Beach, Huron Co., Mich. Cold weather and snowing. Late sown Fall wheat and rye looking poor. This is a sugar beet section; sugar beets fair crop; oats large yield, but light weight; wheat, good crop; corn fodder, good crop but ears poor and didn't get ripe; early potatoes, good crop; blight struck late potatoes; hay, good crop. Past season very wet and backward, not much Fall plowing done. Prices: Wheat, 74c.; oats, 30c.; rye, 45c.; potatoes, 50c. per bu.; eggs, 21c. per doz.; butter, 17c.; hogs, live, 5¼c.; cattle, 3c. per lb.; hay, $6 per ton. Success to the P. F. B. B. LINCOLN.
Harbor Beach, Mich., Dec. 28, 1902.

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Choice Plymouth Rocks.—We want to call the attention of our readers to the advertisement of J. W. Parks, Altoona, Pa., of choice Barred Plymouth Rock cockerels, which he offers for sale. Mr. Parks bought the entire stock and good will of H. F. Cox, who bred chiefly for egg production for many years and whose birds attained an average of 198 eggs each in a year. For introducing new blood a cockerel of this stock is of very great value.

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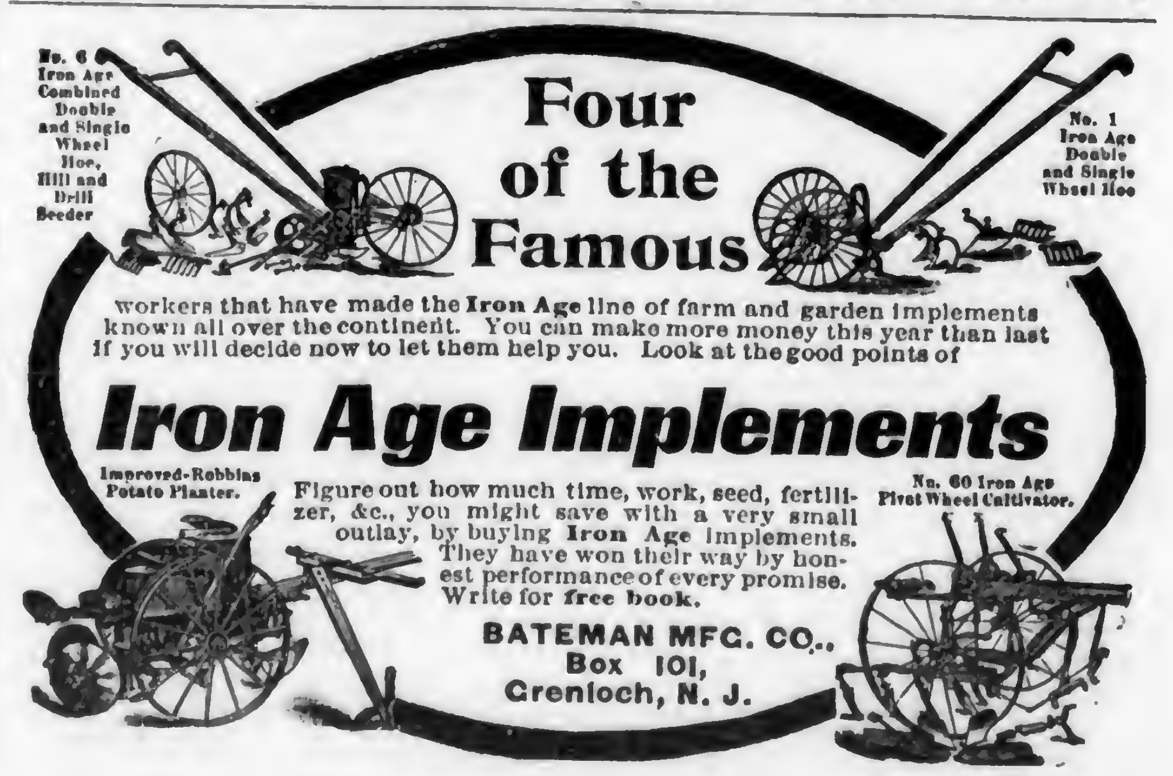
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THE KEYSTONE TO SUCCESSFUL FARMING

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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

One More Cow Ration.

Walter Rush, New Brunswick, N. J., asks what proportions of corn fodder, corn stalks, corn and cob meal and fresh brewers' grains to feed in order that his cows may have a balanced ration for making milk. I suppose by fresh brewers' grains he means he buys them in a wet condition, not dried, as they sometimes are. In round numbers it takes about 4 pounds of the wet grains to make one pound of the dry. Well now, let us look at the nutritive ratio of the different kinds of food named. The nutritive ratio, you know, is the proportion between protein and the carbohydrates and fat. The Wisconsin standard puts this ratio in a balanced ration at 1:6.8. The ratio of corn fodder is given as 1:14.9; or corn stalks, 1:19.9; of corn and cob meal, 1:15.1; of wet brewers' grains, 1:3.2. You can all see that each one of the first three foods is seriously short in protein, while the brewers' grains are strong in this element, very strong. The only way, then, to balance up a ration where these foods are used is to feed brewers' grains largely. Look over following table carefully:

	Dry matter	Protein	Car. and fat
10 pounds corn fodder	5.80	.25	3.73
10 pounds corn stalks	6.	.17	3.40
4 pounds corn and cob meal	3.40	.176	2.66
40 pounds wet brewers' grains	9.60	1.56	5.
Total	24.8	2.156	14.79
Wis. standard	21.5	2.2	14.9

This amount fed to a 1000-pound cow per day would, on the average, give her practically what nutrition she needed. You see it comes very close to the standard. Now whether it will do to feed that amount of wet brewers' grains daily I do not know, not having had any experience with them. Perhaps it might answer, but it makes a heavy grain ration. If this amount of grain, in connection with corn and cob meal, is too much concentrated feed, then a proper ration cannot be made out of foods named. This table may be of use to others in showing how little protein there is in corn fodder, corn stalks and corn and cob meal. It will take a good deal of some grain food rich in protein to make a proper ration, in connection with these. The grain feeds that will do it are cotton seed meal, .372 of protein in one pound; linseed meal, old process, .293; linseed meal, new process, .282; buckwheat middlings, .220; gluten feed, .194; malt sprouts, .186; brewers' grains, dry, .157; wheat middlings, .128; wheat bran, .122; brewers' grains, wet, .039, etc., etc. The brewers' grains, wet, do not seem to make much showing, but it is because they are about three-quarters water, about like corn silage. Take the water out, or allow for it, and you see they stand above wheat bran.

Cooking Food for Stock Does Not Pay.—Ambrose Atherton, Boston, sends a statement made by the Society of Shakers at Lebanon, N. Y., some fifty years ago, as published in Patent Office Report. "The experience of more than thirty years leads us to estimate ground corn one-third higher than unground, as food for cattle, and especially for fattening pigs. The same long experience leads us to put a higher value on cooked than on raw meal, and for fattening animals, swine in particular, we consider three of cooked equal to four bushels of raw meal." Friend Atherton writes that there are several cookers now on the market and the manufacturers are making extravagant claims for them. But in spite of all this he read recently in an agricultural paper that there was not enough advantage in cooking to cover the expense. Well, I think we can safely say that this last statement is entirely correct. So far as I know the general experience of the Experiment Stations and of our best feeders, who have given the matter a continued trial, is that cooking does not pay, except when you have potatoes to feed to pigs in quantity. So long as there are people who do not read much, and who are ready to accept the statements made in circulars as facts, just so long will there be found plenty of farmers who will part with good money for a cooker. Years ago the agents used to follow our Institutes around and try to make money out of the crowd we drew into town. But that is a thing of the past. They steer clear of us entirely now. They do not want our attention called to the matter, so we will caution the people. They fear the truth. It should be said that feeders for the show ring report that they can force animals faster on cooked food sometimes, but for ordinary farm feeding there is no money in cooking grain.

A Brick Filter for Cistern. — P. S. Rhodes, Woodstock, Va., intends to build a cistern to supply drinking water for home use. He asks how the filters in our cisterns are constructed, and if they continue to give satisfaction. The cistern at our home was built 19 years ago last Summer. The filter is simply a brick wall or partition, laid up in mortar, using a little cement in it. The wall is four inches thick; that is, the bricks are laid on flat sides, not on edges. We used fairly well burned bricks. I supposed soft ones would be needed, but the mason said not. This filter wall is laid on a slight curve, in such a way that about two-thirds of the space in cistern is on one side. Into this the water comes from roof. Out of the other we pump water. The water is filtered by passing through the brick wall. The curving of wall is to prevent the pressure of water, when it comes in, from pushing wall over before it has time to filter through. There should be space enough above filter wall so one can get down into either part to clean out. There should be an outlet, or waste pipe, on side that water comes in, just a little below top of filter wall, so when cistern is full water will flow out and not rise so as to go over the filter wall. Do not lay filter wall until after cistern is cemented inside, sides and bottom. Of course you must not cement the filter wall, but leave it just as laid up. It doesn't seem as though water would get through, but it does. Now we burn only wood and anthracite, and with an occasional cleaning of cistern the water is always clear and nice. We also have a slate roof. All these things help. With a shingle roof and burning of soft coal it would, of course, be more difficult to keep water clear. These filters are in use quite generally in our locality. I do not see but ours does as well as ever. I think cistern should be cleaned once a year, and if you will take the trouble to turn water off first few minutes of a rain, thus cleaning roof some before any goes into cistern, the results will be better. We have not done this, but intend, when pipes are renewed, to have them fixed so we can. It would hardly be necessary with our slate roof and hard coal, if it wasn't for birds on the roof. Before constructing the brick partition filter we tried running water through a small cistern first, with layers of small stones, gravel, sand and charcoal in it, but it was not as satisfactory as the simple brick wall. It needed overhauling too often and water was never any clearer.

Making an Artificial Pond.—W. P. Edwards, Boston, writes as follows: "I have on my place a natural basin of swampy land containing about 10 acres. This basin is surrounded by high land, except for about 60 feet. A 5-acre pond of water fed by springs is within 400 feet of it. I desire, on account of the value of ice, to build a bank across the outlet of this basin, thus forming an artificial pond of ten acres. I can dig a trench from 5-acre pond to wells, over which three windmills, with irrigation pumps attached, working, will, I think, prove sufficient to keep pond supplied with water. There are some springs around the basin that will help. The outlet to basin is soft and mucky. How wide should dam be? Is the plan a practicable one? The land is of no use for any other purpose." I think your plan is all right. The width of dam will depend on how deep you want the water and the character of soil used for constructing it. You will have to remove the muck down to the clay first of all. Then if you can use clay for filling a bank wide enough to drive across that will probably be all you need, for any reasonable depth of water. If it is not it will be easy to make it wider after you once get a road across the 60 feet. Get a sod over the dam as soon as possible. This will help much about holding the earth. Muskrats play the mischief, usually, with such a dam, making holes, through which water gets a start. If small stones are plenty it would be no great job to cover the upper side below water level. If you do not, catch the rats when they come around. If you did not remove the muck under the dam probably the water would find its way through it, unless it was largely clay, and it would be a difficult matter to fix it afterwards. I suppose that the 5-acre pond is lower than the basin, or else you would not think of pumping the water. If it was higher of course you would cut a channel through for water, putting in tiles or pipes, and avoid pumping. Water could be carried over a rise by a siphon also, perhaps, thus saving much digging. It would not require such a great amount of water to fill pond in the Fall when it was cool enough so there was not much evaporation. It might be well to put a pipe through dam at bottom of basin so you could let water out in Summer if you wanted to, or you might keep up the pond and raise fish. I have known of both being done, frequently. And I have known of ponds filled by surface flow of water during the Fall rains, where considerable land drained that way. Quite a few of our readers probably have convenient places for ponds.

Health Hints. — Why Some People and Animals Need Salt.—Wm. Stimpson, Fair Hope, Ala., writes that he agrees with the P. F. that we must get the mineral matter the body requires from the food eaten, and he does not think salt any exception to this rule. Although a little salt may not do any particular harm, he believes that men and animals get all they need from their food. He says further that authorities advise keeping salt before cows and horses, and still animals in a wild state do not get salt, and why should domestic animals have it when living on grass and grain, natural foods? Much time has been spent in the investigation of this matter by scientists, particularly in Germany. It would take a book to cover the subject, but I can give you some points briefly. Plant eating animals require more salt than flesh eating ones. Prof. M. L. Holbrook, of New York Medical College, etc., says some plant eating animals are so greedy for salt that they will travel long distances to salt licks, in order to obtain it, which is never the case with carniverous animals. And still there is just about the same amount of salt in the food in both cases. How can we explain this? Further, Dr. Bunge has found that people who have long lived mainly on flesh, such as hunters, fishermen, etc., do not care for salt. There are tribes now, plenty of them, who have salt mines, or live near the sea so they could get salt, and still they use none; but they are flesh eating people. On the other hand, there are native tribes in Africa who cultivate the soil and eat its products and they have a great craving for salt. On the west coast of Africa it is said that a man would sell his wife and children for salt. A war between tribes for the possession of a salt spring is not uncommon. Salt is no mere luxury to them, evidently, but a necessity. Now how can we harmonize these conflicting statements? Well, Dr. Bunge has shown by numerous experiments that the eating of food rich in potash salts takes an increased amount of soda from the body, and the addition of common salt to the food is a scientific necessity. We may say, however, that this salt is required rather to change the form of, or neutralize the excess of potash salts, than to furnish a supply for the body directly. Now if we examine the food of men and animals living on a vegetable diet we will find in it from two to four times as much potash salts as in the food of the flesh eaters, while there is just about the same amount of common salt. There you have the pith of the matter, so far as is known. You could not live long on potatoes without salt, and they are very rich in potash. Liebig says that there seeems to be a popular instinct that calls for salt on food that is largely composed of starch, and these foods are the very ones that are strong in potash. Dr. Holbrook very wisely says that a majority of people eat too much salt, using it as a condi-

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ment rather than to meet a physiological need. But so far as we know now salt is a necessity, more or less of it, with vegetable foods. The common instinct, in a general way is correct, and so is the practice of letting cows and horses have a chunk of rock salt before them to lick from at will.

Speaking of the potash in potatoes calls up another matter that may be of interest to some. A lady was visiting here once who had trouble with her stomach. Following the doctor's orders she ate very little or no potato. Why? simply because potash salts in large quantities cause trouble with the mucous membrane lining of the stomach and intestines, and potatoes contain an unusually large amount of this material. People with weak stomachs should eat rice instead of potatoes, as rice contains only about one-twentieth as much potash. Immediately you may say, then why do we eat salt on rice? It is not needed. It is simply a habit that Americans have. It is said that whole nations of rice eating people use no salt on rice.

T. B. Terry.

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How to Make a Cranberry Bog.

F. A. MAKEPEACE.

The ignorance or indifference which has permitted thousands of acres of valuable swamps to lie idle throughout the country is now being replaced by a general recognition of their worth, and an earnest desire for information on their reclamation. This is because many of these swamps when properly prepared, become by far the most valuable part of the farm. No swamps, however, will produce cranberries at a profit unless properly prepared, and some will not produce them at all. To tell what kind of swamps to prepare and how to do it is the object of this article. Every profitable bog must possess three things: First, the right kind of a bottom; second, fairly good drainage, and, third, good sand conveniently near. Any swamp that grows maple, laurel, cedar, huckleberries or wild cranberries is suitable, whether of peat or alluvial bottom. But any swamp that contains alkali, oil or lime is worthless. Next comes drainage. This must be regulated so that the surface of the bog will be kept dry during the budding, flowering and harvesting season. Last comes sand. This must be absolutely free from lime, alkali or loam, and of a loose, gravelly nature. The Winter season is the best time to begin work on a cranberry bog. The surface is frozen and the wood can be easily cut and carted off. Brush and small trees should be cut close to the ground, but of the larger trees, it is better to cut them so as to leave about 4 feet standing. Having cleared the surface, there is nothing more to be done until the frost comes out. Then a ditch must be dug all around the swamp, close to the upland, and cross ditches must be dug so as to divide the bog into sections of not more than three-fourths of an acre. These ditches should be deep enough to drain the swamp so it is dry enough to work on. The surface is then cut into squares, 2 feet each way, with a broad bladed ax and squares turned bottom up to dry. The hummocks are leveled and the hollows filled, and all surplus turf carried off to the upland. The stumps and roots are now carefully removed. The large stumps standing 4 feet tall are quite easily taken out by digging around them and pulling them over with a block and tackle. Having got rid of these, the swamp is ready for grading. It is important that the work should be carefully done. The whole surface should be as level as a house floor. There are two reasons for this; first, to enable the builder to put the sand on evenly, and second, to make the harvesting easy. There is generally water enough in the ditches to get the level right, and it should be set as high as possible, so as to keep all the good material on the swamp. There is much more danger of getting the swamp too low than too high. A swamp that is low enough to be wet in the Summer will grow nothing but weeds.

Having carried out the above directions, we are now ready to put on the sand. Spread it evenly about 3 inches deep, and throw out all stones as large as a hen's egg. In fact, it is better to screen the sand if possible, for then you know just what you are putting on. The best time to set the vines is during the month of April, and if there is rain, so much the better. The vines are set in hills, 18 inches apart each way, with about five pieces of vine in each hill. One end of the vine is shoved through the sand into the peat, leaving the other end to stick out an inch or two above the surface. There are many varieties that are good yielders, but if your swamp is located where frost comes early and stays late, the early black is the best berry to grow. If your section is free from frost as late as October, try the Howe. There are a number of others that are good. The average price for vines is from $3 to $4 a barrel. It takes three barrels to set out an acre of swamp. Many powders and liquids are advertised to kill insects on the vines. Poison will not injure the fruit unless put on when vines are in flower, and each grower can safely use any that he prefers. The cost of making a bog in the manner described is about a dollar and a quarter per square rod. The ditches should be kept cleaned out so as to let the water flow freely, and the surface of the bog kept free from weeds. A little guano spread around each hill soon after setting is a great help. It takes four years to get a full crop, but the vines will bear some fruit the second and third years. A bog properly made should, at the end of four years, produce on an average, one hundred barrels per acre. If scoops are used in harvesting and a separator in screening, it ought not to cost over $1 dollar per barrel to market the fruit, outside of freight and commission. Some growers are prejudiced against the scoops, claiming that they injure the vines and waste the fruit, and that it is better to harvest by hand. We think they are "penny wise and pound foolish." For example, suppose a grower had a crop of one hundred barrels, and by using a scoop, he dropped or wasted 5 per cent., which is a large average, he would lose five barrels of berries, which at a net profit of $4 per barrel, would be a loss of $20. To harvest with a scoop costs 50 cents per barrel and by hand $1.50, a difference of $1 between the cost of the two methods. He therefore loses just $80 in harvesting his crop by hand. The scoop does not injure the vines at all, and is an up-to-date and strictly practical method. If you want a profitable bog, take good care of it. Don't neglect it. Pull out all weeds during Summer, and after harvesting rake up all loose runners and carry them away. Ten acres well cared for will give any man enough to do, and it will bring him in a larger and surer income than thirty acres of the best farm land.

Norfolk Co., Mass.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Timothy and Clover.—L. M. Watkins, Leonardtown, Md.—"Someone asked you lately if timothy was a drawback to the land, and you answered that it was about the same as a similar growth of wheat. This was a misleading reply. If, when the hay is cut the stock is allowed to keep the land bare, the answer is all right, but if the aftermath is let grow and the farm manure hauled on it for corn the farmer has the best substitute for a clover sod I know of. His land is mulched for the Winter, and a goodly supply of humus is furnished. And as Mr. Terry says it is well to sow some with the clover, I shall sow three bushels of clover and two of timothy on my 15 acres of wheat this year. I formerly sowed the last freeze in Spring, and it often died out. One of my neighbors sows as soon as possible after Christmas, and claims that the seed gets so deep in the ground that it does not sprout prematurely and be killed. He claims to be very successful. In 1895 I failed to get a stand of clover and put the land in corn next year and had a good crop. Then wheat and corn again and a poor crop of corn. Then wheat and a good stand of clover, on which I put all of my manure and made this year a fine corn crop. Every farmer knows that land cannot stand to be cropped at that rate, but it does suggest that to work some of the humus out of the land is a benefit to the clover. But is not the remedy worse than the disease? It is evident that it does not require rich land to make clover, for the heaviest I have had was on old field land with eight cords of farm manure per acre and 400 pounds of acid phosphate and kainit on the previous tobacco crop. This land, after the clover sod had been plowed in would not make more than 30 to 35 bushels of corn per acre, and I have had far less growth of clover on land that would make 50 bushels per acre." I have quoted almost the entire letter of our friend, because it shows that he is thinking about his farming, and when a man gets to thinking he is apt to improve. The reply in regard to timothy to which he objects was simply to show what a crop of timothy removes from the land and not to show the effect of growing timothy at all. Properly used, a timothy sod cannot fail to improve land when plowed down. But in the climate where our friend is working we believe that he can do far better with orchard grass, as it is better suited to the climate and makes a stronger sod. Then, as to clover growing on poor land, it is evident that in manuring your tobacco you made good preparation for the clover crop, and if you had not done so you would have found that the clover failed. Of course the crop of 30 to 35 bushels of corn after clover on an old field, was a very good one, and showed what the clover had done. The trouble with the richer land probably was that there was acidity from humic acids in the soil, and that liming would have made greater growth of clover on that land than the manure did on the field. In fact, except as permanent pasture, in a tobacco growing section like yours, we would grow only clover and peas for hay, for the hay is better than timothy and the development of the productivity of the soil will be greatly enhanced. The only reason why the working down of the humus in the soil gave you a better growth of clover was that you worked out the acid condition of the soil that prevented clover from growing. Had you limed the land instead of working it down it would have been a great deal better. What your section needs, and what we tried to tell them last Winter at Institutes, is a good and systematic rotation of crops preparatory to the tobacco crop, with a light liming once in five or six years. We are glad that you are thinking along these lines and hope to hear more of your success.

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Peas, etc., in Northern New York.—Bert Vorce, Mexico, N. Y. — "Can we grow cow peas in Oswego Co., N. Y.? Will Canada peas and oats cut when oats are in the milk, make good silage to tide over the Summer drought? Will shredded corn stalks keep in the silo?" We think the success of the cow peas doubtful in your climate and only actual experiment can determine how they will do. Some of the early varieties may do fairly well on light and warm soil, but none of them on heavy clay in that climate, we believe. We have never used the oats and pea mixture in the silo, but can see no reason why they will not do very well as a Summer silage. Shredded stover will keep in a silo, but it is a waste of room to put it there, for it will keep in a rick outdoors.

Improving Productiveness.—"Farmer," Lakewood, N. J., who writes on both sides of his paper, says that he has a deep sandy loam soil which he wants to bring up to make 400 bushels of Irish potatoes per acre. Land was cleared many years ago but not well cultivated. Had marl and lime applied about 25 years ago, and since he got possession he has adopted the P. F. as a text book, seeding the land to clover with an application of acid phosphate and kainit and had a good crop which was mown in 1901. Dressed the clover with manure in 1900 and 1901, and in Spring of 1902 applied 300 pounds of acid phosphate and 100 pounds of muriate of potash per acre, and prepared the land thoroughly and made 75 bushels of corn per acre. Now in rye. "Will it be best to plow this under in the Spring and sow to red clover and turn this under in Spring following and prepare for potatoes?" Of course, another crop of clover will be an advantage, but sowing it in the Spring and having but the one season to grow in it will not give you the amount of sod that would be desirable. It would make a very good crop of potatoes to plow the rye under as early as possible and then apply the fertilizer you intend. But by waiting another season and plowing the rye down in May and then sow one bushel per acre of cow peas dressed with 300 pounds of acid phosphate and 25 pounds of muriate of potash per acre, you will get more than double the amount of growth either for forage or soil improvement than you would get from the clover in the same time. Then in the Fall chop up the dead pea vines with a disk harrow and sow rye, and turn this under the next Spring early and you will have with the fertilization you suggest as good a chance for a big crop of potatoes as you can provide for. Do not use lime on this for the potatoes for it will, in such conditions, probably increase the yield but give you a scabby crop.

Feeding Tankage.—F. M. Rand, Somerset, Ohio., asks our opinion as to the value of tankage as a feed for stock. He finds that he can get Armour's tankage for $5 per ton less than oil meal or gluten meal, and wants to know if it is not as economical feed. We have never made any test of the tankage as a feed for stock, and the only thing we can find among the Stations is Bulletin 65, of the Iowa Experiment Station, Ames, Iowa. They there made experiments in feeding pigs on whole corn alone and found the cost of producing 100 pounds of gain was $5.10. When fed on corn and Darling's Beef Meal the cost per 100 pounds of gain was $4.80. When fed corn and Swift's Digester Tankage the cost of 100 pounds of gain was $4.50. When fed corn and Armour's Tankage the cost of 100 pounds of gain was $4.90, and when fed corn and Standard Stock Food the cost of 100 pounds of gain was $5.00. The conclusions were that it was an advantage to use some one of the meat feeds as a protein food along with the corn. I suppose you can get a copy of this Bulletin by writing to the Director of the Iowa Station, Ames, Iowa. We hope to give a full synopsis of it in the Cream of the Bulletins ere long. We are inclined to think that these tankage foods are valuable for hogs.

Feeding Query.—Theo. Cranz, Fisher, Ore.—"Why is good mixed hay, consisting of white, red and alsike clover, timothy, rye grass, Kentucky blue grass, orchard grass and red top not a balanced ration if pasture is? I want to care for my stock as well as it can be profitably done but cannot see that it would pay me to feed grain. I am 25 miles from town and if we raise any grain it would have to be threshed by hand, as no machines come here yet, being a new country. Have a great many stumps yet, and therefore raise no grain. I put up about 35 tons of hay, stable my stock at night and in storms, but stock runs in pasture in the daytime. I have tried not pasturing my meadow one year, but find that it does not pay as grass falls down so badly and rots on the ground, as we have heavy rains in June and harvest our hay the latter part of that month or early July. I pasture cattle until the first of April to hit the harvest about right, as it does not rain from the first of July until the latter part of September, but our fields stay green the whole year and my cattle are fat all the time. Can I cut up oats, grain and stover with the feed cutter, and feed this with the hay; that is, would it pay to do so? I give the calves all the milk for three months. Have them run by themselves in a good pasture, which I find better than leaving them with the cows. The fourth month I take one-quarter of the milk, 5th month one-half, 6th month three-quarters, and after that I take all. My calves are better than the average, but want to make them better still if I can do so with a profit. My cows are still taking on flesh though getting mostly hay, as the pasture is not so good as in Summer." The mixture of legumes and grass hay will, of course make a fairly well balanced ration, but the cattle would be better for having a little more concentrated protein in the shape of grain. You can grow oats, doubtless, and we feel sure that it would pay you well to cut up the sheaf oats to add more grain to your ration. This would especially help in the growth and more rapid development of your calves. As it is it is largely a question of getting the stock to consume enough of the hay to give the protein which they need and which they can get more rapidly in the concentrated form of grain. Your query in regard to lung worms has been referred to Dr. Alexander for answer in his department.

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Japan Clover.—W. D. Zinn, Philippi, W. Va. "Is there any danger that the Japan clover will become a weed nuisance? I see it growing in the southern part of the State, and am thinking of trying it on my farm, but have been warned by some farmers not to sow it." There is not the slightest trouble to be apprehended from the Japan clover, lespedeza striata. It is not a plant that will be valuable in a regular farm rotation, but it is very valuable for covering waste lands and making fairly good pasture where nothing else will grow. It will run out broomsedge, as we know from experience. It is purely an annual, coming from seed every year, and its growth northward will be limited by the season, for it seeds late in the Fall, and when it reaches the latitude where the seed fail to ripen it will not be permanent. It is never a nuisance anywhere in cultivated grounds.

Success with Jersey Cows.—Rev. J. C. Shelton, Mayfield, Ky., says that one of his grandsons induced him to subscribe to the P. F., and he is glad that he did so. He farms as well as preaches and tells of the success he has had with his cows. "For ten months I have kept a strict account of the milk and butter we have sold from two cows besides furnishing the family. We sell 21 gallons of buttermilk a week at 7 cents per gallon, 5 pounds of butter at 20 cents per pound, making $2.47 a week, and in ten months, $98.80. One of the cows was just two years old last May. There is no doubt that a few cows well cared for will prove profitable and none are better adapted to this purpose than the Jerseys.

Best Results
in feeding for milk are obtained by adding some
BUFFALO Gluten Feed
to balance the ration.
Sample and booklet
"Feed Your Stock for Best Results."
Sent free. Write to-day.
Address Department G
THE GLUCOSE SUGAR REFINING CO.,
The Rookery, Chicago, Ill.

HOW TO FIND OUT.

Fill a bottle or common glass with your water and let it stand twenty-four hours; a sediment or settling indicates an unhealthy condition of the kidneys; if it stains the linen it is evidence of kidney trouble; too frequent desire to pass it, or pain in the back is also convincing proof that the kidneys and bladder are out of order.

WHAT TO DO.

There is comfort in the knowledge so often expressed that Dr. Kilmer's Swamp-Root, the great kidney and bladder remedy, fulfills every wish in curing rheumatism, pain in the back, kidneys, liver, bladder and every part of the urinary passage. It corrects inability to hold water and scalding pain in passing it, or bad effects following use of liquor, wine or beer, and overcomes that unpleasant necessity of being compelled to go often during the day, and to get up many times during the night. The mild and the extraordinary effect of Swamp-Root is soon realized. It stands the highest for its wonderful cures of the most distressing cases. If you need a medicine you should have the best. Sold by druggists in fifty-cent and one-dollar sizes.

You may have a sample bottle of Swamp-Root, the great kidney remedy, and a book that tells all about it, both sent absolutely free by mail. Address, Dr. Kilmer & Co., Binghamton, N. Y. When writing be sure to mention that you read this generous offer in the Philadelphia Practical Farmer. Don't make any mistake, but remember the name, Swamp-Root, Dr. Kilmer's Swamp-Root, and the address, Binghamton, N. Y., on every bottle.

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CAHOON Broad-cast Seeder.
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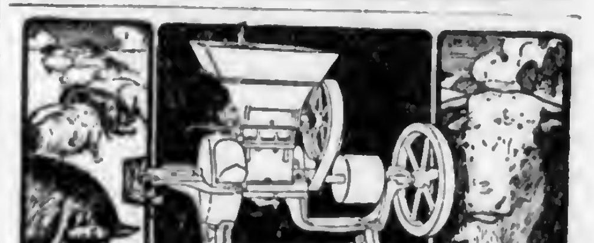

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and indeed all live stock do better and produce better results on ground feed. Nothing fits such a variety of grains and conditions so well as the
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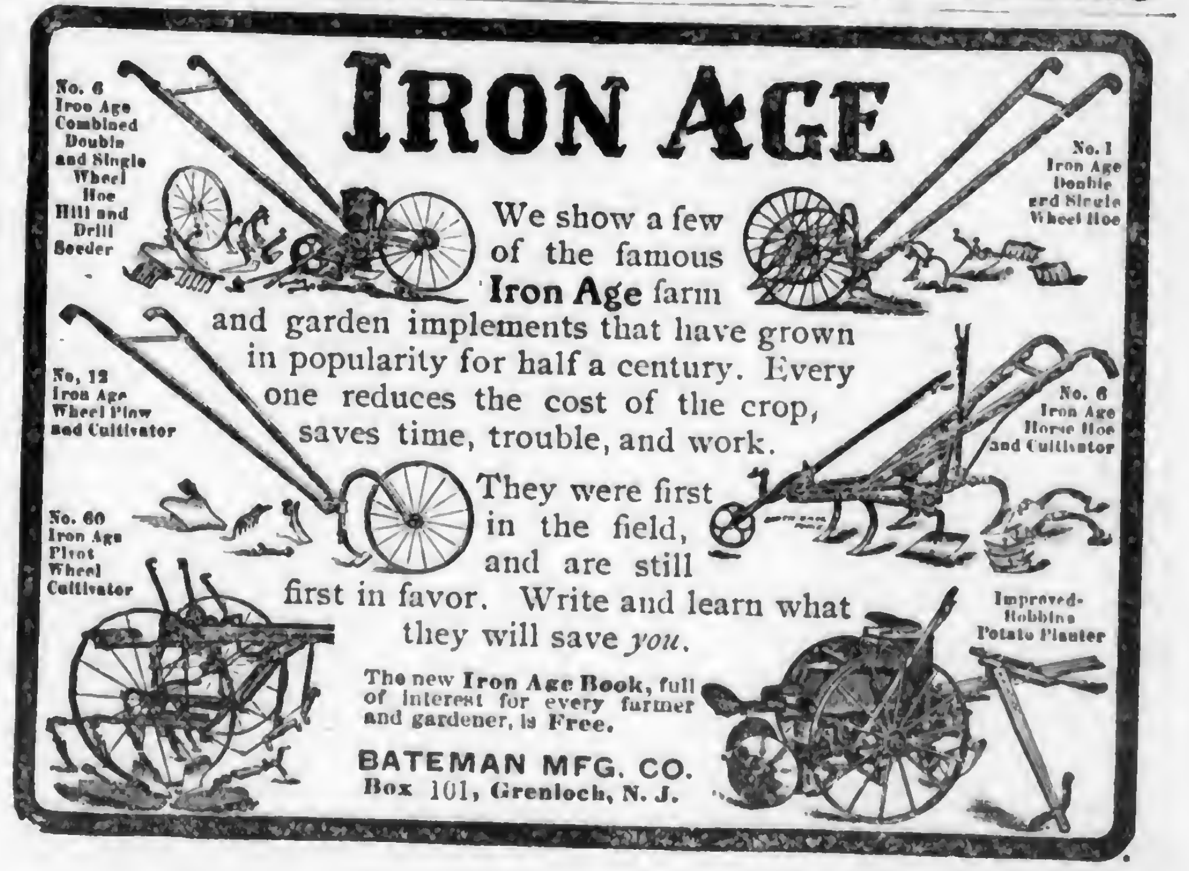
We make numerous kinds, both sweep and power. Also grinders and power combined. We can fit the man who needs a mill, both as to kind and price. Don't buy a mill of any kind until you send for our New Catalogue Q. Mailed free.
The Foos Mfg. Co., Springfield, O.



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They were first in the field, and are still first in favor. Write and learn what they will save *you*.
The new Iron Age Book, full of interest for every farmer and gardener, is Free.
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No. 6 Iron Age Combined Double and Single Wheel Hoe Hill and Drill Seeder

Live Stock and Dairy.

A Great Combination.

While we keep this department up-to-date on stock and dairy matters, we know that many of our readers would like, in addition, an exclusively stock paper. Among them we regard The Breeder's Gazette, of Chicago, the leading one. We have made arrangements by which we can send the P. F. and The Breeder's Gazette both one year for only $1.90.

Rearing and Feeding Cattle on Farms.

HENRY STEWART.

It is commonly supposed that profit from the feeding of live stock can only be made by the large farmers who have extensive feeding fields, and the best of grass pastures, along with ample supplies of grains for the finishing of the stock. But, as in all our other industries, a certain division of labor occurs spontaneously, indeed of necessity, in this business. Thus there is the breeder and feeder of the stock, who brings the animals into good fair condition for the final finishing, and the final feeder who finishes the work; for there is a division of labor in this industry, as in all others, by which the fullest profit is made for all concerned. This division of labor makes it very convenient for both parties concerned, as it avoids a large investment of capital and excessive labor, which would interfere with the conduct of any but extensive farms and outfits. But on any ordinary farm of a hundred acres one may rear quite a number of young cattle to the beginning of the second year, when they are ready for the final feeding, by which they are fitted for the block at the end of the second year. And in a majority of instances, excepting those in which some special culture is predominant in the management of a farm, a few or more head may be fed for the butcher every year with the easy doubling of the money made by the same work or energy expended in other ways. And as the feeding is done mostly in the Winter, when there is leisure from other work, the labor involved is simply a saving of time to useful purpose instead of wasting it. In fact, that old principle of action well described by that pithy quotation which should always be present in every farmer's mind, and be made a spring of action at all times, to the effect that the feeding of cattle is the most important part of agriculture, might well rule instead of being, as it now is, a rare thing to be seen in the ordinary business farm. To grow grain and hay for sale is simply a slow, but very certain way of selling the land for a song, as the saying goes, and this paid by small installments yearly for a certain series of years. But surely in the end the fertility of the land is wasted to no profit, and unless supported by the purchase of costly fertilizers it disappears in time, and the owner too disappears in the Western wilds, to begin a new life on the same principle. Thus it is the only true and sure economy for every actual farmer, by whatever method of culture he works his land, to feed as many head of stock for the market as his means permits. Let us study these figures with care.

Money value of the manure made from one ton of the following foods fed to cattle:

Cotton seed meal	$27.67
Linseed oil meal	19.54
Malt sprouts	18.22
Cow peas	15.76
Oats	7.40
Corn	6.70
Clover hay	8.65
Meadow hay	6.43
Oat straw	2.90
Barley straw	2.68

These figures represent the value of the residue of the kinds of foods mentioned, left after feeding one ton, not the value of the foods themselves, so that the feeder of a ton of any of them gets the actual value of them as food, in the growth of the animal, and the sums mentioned in addition in the manure left by the undigested matter voided by the animal, as we call it, manure.

This is the principal reason why the feeding of animals may be made to give two profits to the feeder, and we must remember that this appertains to the young animals reared, as well as to them during the final feeding for the finish. Just here we might very usefully consider the fact that this manure left by a fattening animal has several valuable uses in addition to the contribution of the principal elements of plant food usually counted in the figures above mentioned. For instance, there is a large quantity of organic matters existing in the manure, which go to add indirectly to the fertility of the soil by means of the chemical action which they exert on the actual mineral elements of it. For in their decay there are various gases produced by which inert mineral constituents of the soil are dissolved or made soluble, and so, available for plant food. These have never been counted in by the agricultural chemists who have analyzed these manures, and whatever indirect benefit the feeder of animals gains in this way is additional to the values given in the figures above stated. So that those figures are actually the minimum, and not the total, of the whole advantage gained by the feeder of animals for the market. It is in this way that the old adage above quoted, is not only justified, but even improved upon when the whole benefit gained is understood.

All this appertains to the feeding of the cattle solely. But we have to think of the advantages derived from the rearing of these from birth, when this may be done conveniently. The early feeding of animals gives far more profit than that of mature animals in a sort of advancing scale as the age increases. This continues until a certain age, when the animal makes no profit for the feeder, and this age is the fourth or even the third year. Thus it has been that the experience gained in this line has led to the entire change in feeding during a few years past, and since the time when beeves were thought fit for beef only when four to six years old. Practice, however, has been wholly changed since this discovery, and now the markets are filled with what might be termed half fed cattle, and none older than a year and a half or two years.

This is a very important matter to study. For there may be only one year of stall feeding, and two years on grass or other pasture, needed to fit a steer for market at the age at which it brings the most profit to the feeder. This simplifies this business very much, and as this fact is either not well known, or is not understood, many farmers have discarded the thought of feeding cattle on this account. One who has not known of, or understood this fact and the changes which have occurred by reason of it, must well consider this present condition of this business, by which the feeding has been greatly reduced in cost, and, at the same time the stock itself comes to market in a more profitable condition on account of the smaller waste in the young animals. All these facts go to show the farmer how much more profit there is now in rearing cattle than there has ever been before, in these lines of less cost and better values in the market, for these more cheaply fed animals.

Macon Co., N. C.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 1016 Davis St., Evanston, Ill., who has editorial charge of this department. All inquiries requiring answer by mail must be accompanied by a fee of $1 each.

Enlarged Hock.—I have a 2-year-old horse which has an enlargement on both inside and outside of hock joint; the enlargements are rather soft, have no soreness and do not lame horse. It has been a year or more since first noticed. I do not know the cause. T. H. HUGHES.
Jeraldstown, Tenn.

"Filled hock" such as you describe is usually inherited and is most often seen in horses of draft breeds. Where lameness is not present severe measures should not be adopted lest they cause lameness. This being the case we usually advise persistent hand rubbing several times daily where the animal is valuable. If you cannot do this then rub well three times a week with mercurial ointment. Colt should be kept in roomy box stall and not allowed to strain hock by galloping while under treatment. We cannot promise you much success in treatment.

Possibly Glos-Anthrax. — Will you please tell me what was the matter with my calf, and what could I have done to it. The calf was about four months old. Its feed was milk, shelled corn, oats and threshed millet hay morning and night. About a week ago its ears commenced to drop, then about five days after that it swelled on one side of the jaw. The swelling was hard. And the next day it died. The tongue was swollen, and the back part of the tongue was black. It ran in pasture in the day time.
Avalon, Mo. MARCUS PETERSON.

The case is a most suspicious one. We would suspect "glos-anthrax," which is incurable and fatal. Were it that disease nothing could be done to save the animal. At the same time similar symptoms might be presented where the tongue had been injured or penetrated by a sliver or other foreign body, ending in blood poisoning. A blow on the side of the head sufficiently severe to break the jaw and possibly send a sliver of bone into the tongue might also explain the case, which could not be definitely diagnosed without post mortem examination. We would advise you, on general principles, to cut down the rations of other young cattle, as you are feeding too heavily. Stop the corn and millet hay and substitute bran and middlings along with corn fodder or timothy and clover hay. See that the bowels are kept open.

Influencing Sex.—Can you give me instruction concerning influencing the sex of cattle? I'd like to raise more bull calves than heifers. SUB.
Apple Creek, O.

We are unable to give you any practical advice as to influencing the sex of cattle. Numerous experiments have been made but we are still as much in the dark as ever. Buy a bull that comes from a family noted for the production of bulls. Breed the cows just when they are going out of heat.

Colicky Pains.—I have an eleven-year-old mare that has urinary difficulty of some kind. She has had eight or nine attacks since I have owned her, in three years. It had been nearly a year since she had one, until about two weeks since, and now she is having another. When taken she will strain and try to make water and most of the time stand stretched out just as far as she can and at intervals will paw and lie down. I have tried numerous remedies but the only thing I have found that will start the water is turpentine, and I hate to use that. I had our veterinarian in one of her attacks and he pronounced it some kind of colic. I know he was wrong but gave his medicine as directed and she kept growing worse; then I gave turpentine and got the water started and she was all right. I have had two other horses affected in the same way in the last three years and have thought hard water had something to do with it, as all our water is very hard. E. L. LANDON.
Granville Summit, Pa.

Long use of extremely hard water by horses tends to produce indigestion, characterized by staring coat and tendency to stocked legs. In some instances we also find stone or gravel in bladder and also large calculi in the intestines. A careful examination of your mare's bladder should be made and unless stone or gravel is found there we would incline to agree with the diagnosis made by your veterinarian, as it is our experience that ninety-nine out of a hundred cases showing the symptoms you describe, are affected with abdominal pain rather than urinary disorder. In such cases pain leads to spasm of the neck of the bladder and retention of the urine, which is expelled when pain subsides. When you have given turpentine it has not "started" the urine, but merely relieved the pain and so incidentally produced micturation. When it is suspected that there is actual stoppage of urine, it is a very simple matter to pass a catheter into the bladder of mare and draw off the urine. Urination is also easily induced by merely irritating the urethra or passage into the bladder by inserting the finger. Turpentine is excellent in colic and should be given in dose of from one to two ounces. Mix it well with a pint of raw linseed oil and half an ounce of fluid extract of cannabis indica and give at once when an animal shows the symptoms you mention and also try to effect urination as suggested above. It would be wise for you to substitute soft water for the hard water your horses have been drinking if to prevent lack of condition alone.

Lice on Horses.—Please tell me what is best to kill lice on a horse at this season of the year. C. J. KOLBE.
Upper Marlboro, Md.

Make a tea of four ounces of staveacre seeds in a quart of boiling water and apply frequently to parts infested with lice. Clean up the stables and whitewash walls and woodwork. See that stables are kept clean and well ventilated at all times.

Feeding Corn Stalks.—Is it injurious to horses to feed them corn stalks one meal and hay the next, providing we give such grain food as to balance the ration?
Lamar, Pa. MRS. M. C. DOTTERER.

When horses are idle during Winter and running out in a yard they may be safely fed as you propose, but care should be taken to keep their bowels open and this is best done by a bran mash twice a week or carrots, or even a little sweet silage. We would not advise the feeding of corn stalks to horses doing hard work. The food is too bulky and innutritious to be fit for working animals which require concentrated, nutritious food.

Indigestion. — I have a mare 9 years old that is subject to spells like the following: She will refuse to eat anything; will paw a little with one and then the other forefoot, then stick up her nose as though she smells something, and lies down and seems to be at ease. Then at times she stretches out her head and all four feet; then she will lie down on her belly and stretch out her forefeet as if she were going to get up; her ears will flop and she holds her tail tight. She has had six spells in about ten months; some of them last longer than others—from two to three days. She has them when she runs on grass as well as on dry feed. I am using her lightly. I have been feeding her on wheat straw with a little corn, and sometimes I give her a bran mash. I think she is in foal.
Buchanan, W. Va. J. T. CONNER.

The symptoms indicate pains in the abdomen and worms may be present, but as she is in foal it would not be safe to give worm medicine. At the same time stomach trouble, such as collection of gas, would explain the symptoms and this would be due to indigestion. Would advise you to give her plenty of exercise daily and feed prairie hay instead of straw and oats, and bran instead of corn. Twice a week give her a warm bran mash in which mix a heaping tablespoonful of granulated hyposulphite of soda. When she has a spell withhold grain and give her a pint of raw linseed oil followed by a bran mash if she will take it. Watch for worms after the oil has been given and treat her for them after she foals. Write again later if further advice is required in this case.

Clover Bloat.—Are cattle that die from clover bloat wholesome food if bled and attended to quickly? There is a grass here that is real blue and forms a very heavy sod that spreads very rapidly and seems to be tougher than the kind of blue grass we have been used to; seed very similar to our regular blue grass. Will pasturing wheat in Winter kill cattle? H. A. ROBERTS.
Waverly, Ky.

Such cattle do not bleed out well and we would not advise the use of carcass of any animal dying from disease. There is no need, however, of losing animals from clover bloat. Good management will prevent bloating, but if a case is seen and trocar and cannula are promptly used to tap the paunch the animal will not suffocate. A pint of raw linseed oil and two ounces of turpentine well shaken together and given as a drench in cases of clover bloat usually prove effective and may even do away with the necessity of tapping if the bloating is not severe when noticed. Keep the cattle off clover when dew is on the ground and feed plenty of dry hay at same time along with abundance of salt and bloating will not prove to be so troublesome.

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Incubators and Brooders. — We have before us the new catalogue and price list of the Ormas Incubators and brooders manufactured by . A. Banta, of Ligonier, Indiana. While this catalogue is not as large nor as gorgeous as some of the incubator concerns are putting out, we doubt if any of them tell the story with more directness than does Mr. Banta's. For a moderate priced incubator the Ormas is making an enviable reputation for itself. Would advise our readers who are interested in incubators to write for one of these catalogues before purchasing. It is free if you mention the P F.

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Else No Money Is Wanted

Any honest person who suffers from Rheumatism is welcome to this offer.

I am a specialist in Rheumatism, and have treated more cases than any other physician, I think. For 16 years I made 2,000 experiments with different drugs, testing all known remedies while searching the world for something better. Nine years ago I found a costly chemical in Germany which, with my previous discoveries, gives me a certain cure.

I don't mean that it can turn bony joints into flesh again; but it can cure the disease at any stage, completely and forever. I have done it fully 100,000 times.

I know this so well that I will furnish my remedy on trial. Simply write me a postal for my book on Rheumatism, and I will mail you an order on your druggist for six bottles Dr. Shoop's Rheumatic Cure. Take it for a month at my risk. If it succeeds, the cost is only $5.50. If it fails, I will pay the druggist myself—and your mere word shall decide it.

I mean that exactly. If you say the results are not what I claim, I don't expect a penny from you.

I have no samples. Any mere sample that can affect chronic Rheumatism must be drugged to the verge of danger. I use no such drugs, and it is folly to take them. You must get the disease out of the blood.

My remedy does that even in the most difficult, obstinate cases. It has cured the oldest cases that I ever met. And in all my experience—in all my 2,000 tests—I never found another remedy that would cure one chronic case in ten.

Write me and I will send you the order. Try my remedy for a month, as it can't harm you anyway. If it fails it is free.

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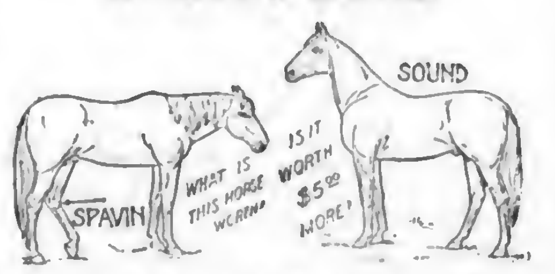

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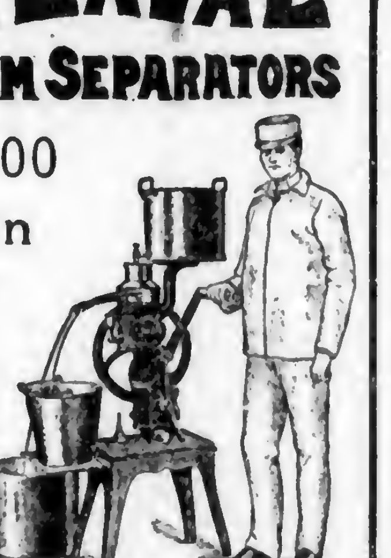

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Pat. May 21, 1901.

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THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

Notes from a Carolina Garden.

I have said something in regard to the loss of lettuce in the frames from rotting. The variety was the Big Boston, which is the kind almost exclusively grown in the South in Winter for Northern shipment. As we were not prepared at this time to clean out and replace the entire soil in our frames, we have replanted where the Big Boston rotted with Maule's Hanson and the Wonderful. These are not commonly grown in frames, but we thought to test their ability to withstand the rot fungus. So far we find that the plants are growing well and there is little sign of rot, and we hope that we may yet get something from the frames. Outside we have a considerable area set with these varieties for Spring heading, and the plants look finely. The soil between the rows is heavily mulched with forest leaves so that only the tops appear above the mulch. Lettuce that is not headed will stand a great deal of freezing, but when once headed the freezing quickly ruins it. Up to the time of the freeze a week ago we were getting fine hard headed lettuce from the open garden, but now the entire outer parts are blackened and only the hearts of the heads are at all eatable. The lettuces of the type of Boston Market, Tennis Ball and Big Boston are good shippers, but for home use they are not to be compared with the Hanson and Wonderful, both of the Hanson type. The heads of these are as brittle as an icicle and hence do not ship as well as a tougher Boston. The Hanson has been improved by careful selection and now Maule's Improved Hanson is a variety hard to excel, being as crisp, or more so than the old type, and of a lighter green color with very solid heads, as white and brittle as ice itself. The Wonderful is of similar type but of a darker green in general color, and both are far superior to any of the Boston type for home use. Fall set plants in the open ground head finely in March, here, and are at that time profitable to ship, as they are not so brittle as those grown under cloth or glass. I was interested in what Mr. Greiner has to say in regard to growing plants under cloth, and was not surprised to read his results. Most of our market gardeners who grow lettuce for shipment in Winter, use cloth as a protection, fixed to roll up in bright, sunny weather, like an awning. They get fairly good crops when the weather is favorable, but when snow comes and long rainy spells they are in a bad way. I have proved to my own satisfaction that the market gardeners of the South Atlantic coast are not making near the profit they could from their lettuce crop if they used glass sashes. They hesitate at the first cost of glass, while really in the long run the cloth is the most costly. I am using sashes now for the 14th year, and they are still good. The cloth has to be renewed at least every two years. In Summer, a cover of thin cheese cloth is a valuable thing in this climate for seed beds, but for growing crops I am of the opinion that it is worse than useless. With the beginning of the new year we are turning our thoughts to the Spring vegetables. I always try to get my earliest peas in the ground as soon as practicable after New Years day. For this planting the round, hard seeded extra earlies are the kind, for the wrinkled varieties are more tender in the seed and may rot in the ground if planted so early. We plant these in February. Early in January, too, we sow seeds of early cabbage and cauliflower in the cold frames, to be ready to follow the Fall set plants. At same time we sow seeds in the frames of early beets of various sorts and Prizetaker onion seed for transplanting the last of February. Early radishes, too, go in the frame to take the place of the Rose Colored Chinese from the open ground, which will now soon be getting pithy and turnipy in taste. The long, open Fall and early Winter put our Fall planted onion sets away ahead of what we usually expect, and we are getting fine young onions daily for the table. The moist weather has started an immense mat of chickweed among them, and we are letting it stay as a protection against possible cold, and will clean it out in the Spring if the onions are not used up by that time. I have one sunny slope of very rich soil where I intend to try Mr. Greiner's cloth this Summer. But I propose to put the cloth overhead only as a protection against too hot sunshine, leaving it open all around and high enough to work under. In this way I believe that it will be a help to cucumbers and melons which I will plant there.

Among the vegetable crops tried last year we have formed a very high opinion of Wood's Prolific bush lima bean. We have grown all the bush limas, beginning with Henderson's, which we grew before it was sent out, and have found none equal to the above-named. The plant has the habit of the Henderson, but the beans are a great deal larger, and it is the most productive lima we have ever grown. A few rows in the garden gave my large family of ten people all they wanted during the season, and we gathered enough dry beans to last all Winter. As a field crop in the South we believe that it will be profitable for the dry beans alone. The Alpha beet proved to be nearly or quite as early as the Egyptian, and kept in good eating condition much longer. We have not yet found an extra early sugar corn that is worth planting in the South. The first that is of value here is the Country Gentleman, and the Mammoth and Stowell's Evergreen are the standbys. About the earliest corn we get is a field corn known locally as Watauga corn, a small growing early corn cultivated in the high mountain plateaus of Northwestern North Carolina, from 3,000 to 4,000 feet above the sea level. Maximum lettuce did not prove superior to many others and soon succumbed to hot weather in May. The hard heading varieties of the Hanson type are, as we have said, far better for the open ground here. The Rocky Ford melon did fairly well and was very prolific and early, but the sun finally overcame it. Hackensack is better for the general crop here. Emerald Gem cracks and spoils badly in wet weather, but when it does succeed is a very fine melon. For use in late Summer and for selling quickly the Prizetaker onion is hard to beat. But it must be disposed of soon, as it is a poor keeper. The best keepers we have grown among onions are the Southport White Globe and the Opal. For green onions in Winter and Spring we raise sets of the Queen and plant them in September. We tried a number of new okras sent by the Department of Agriculture, and gotten by them from Algeria. None of them were equal to the White Velvet so long grown in the South. One variety grew about eight feet tall and only began to bloom about frost time. We had some monstrous pods on the Chinese Giant peppers, but having only a few plants we kept them for seed. The Ruby King is a good and productive pepper, but is far hotter than the old Bull Nose. The giant Chinese is said to be milder and we hope to test it fully this season. The Tobasco peppers, as we have often said, were a marvel of productiveness, and about as hot as anything one may get into his mouth. My plants grew over six feet tall and were loaded the season through, and when they were finally threatened with destruction we cut them down to the ground and hung them in a basement store room where they are all ripening. We only plant a few of the extra early peas, as we much prefer the wrinkled sorts. But the extra earlies come in a little sooner, though the Alaska is not far behind the old Daniel O'Rourke type, and then we get Heroine, Premium Gem and the later wrinkled peas in rapid succession. Our market gardeners plant the tall marrowfat in November alongside the dead cotton stalks as a support, and they come in after the extra earlies sown in January and February. The leafless radish was good. Maule's Earliest White, too, was excellent, and 1834 was superb in its uniformity of size and shape. We had 26 varieties of tomatoes and the best of all was Success. Honor Bright not only got its usual yellow color on the fruit, but the whole plant turned yellow and the fruit stood in beautiful shape and large clusters but absolutely refused to ripen well even after gathering. There is no more handsome tomato if it would only conclude to ripen before frost.

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It is safe to treat Baby's Cough with Jayne's Expectorant.

Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

The First to Plant the Kieffer Pear.

Now that the Kieffer pear has established its reputation as a remunerative market kind, claimants are coming forward that they were the first to plant it. It has recently been said in Green's Fruit Grower that J. S. Collins was the first to advertise and plant this pear. This, I think, is certainly a mistake. Wm. Parry, of Riverton, New Jersey, takes first place, if I mistake not. The pear was raised, and exhibited by Peter Kieffer, of Roxborough, Philadelphia, at the Centennial Exposition, at Philadelphia, in 1876. I believe I am right in saying that the names of the judges of the fruit display of the Agricultural Department were Josiah Hoopes, Thos. Meehan and William Parry. The committee gave the fruit a first-class recommendation. Subsequently Wm. Parry secured the right to the grafts of the original tree from Peter Kieffer, and he it was who first advertised and sold the trees. Whether or not he led off in the planting of an orchard, I cannot say. Mr. Collins may have done that, but I believe the first to advertise it was Mr. Parry. As a profitable market pear, there seems no dispute of the merit of the Kieffer.

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Horticultural Queries.

Apple Trees Not Bearing.—We have an apple orchard that should have been bearing for four or five years, and bears but a little. What can we do to it? The trees are planted in limestone ground in upland. They have been cultivated, fertilized and manured. The varieties are Baldwin, Grimes Golden, Fallawater Smokehouse and Honey apple. We have also one tree that produces bitter rot fruit year after year. What can we do to prevent bitter rot apples?
Harrisonburg, Va. T. F. Brunk.

If the trees should have been bearing since four or five years ago, as you say they should, there is some other cause for it than anything you have said would suggest. The trees are thrifty and nice, you say. When this is the case the trees have decided the time to bear has not arrived. A tree growing too vigorously will be a long time coming into bearng. If your trees are really larger and older than bearing trees usually are, do not fertilize them nor cultivate them for awhile, so they will not be stimulated to grow; this should cause them to flower and fruit. The kinds named are a good lot. The Honey I do not know, but if what we call Honey Sweet, it is a good eating apple for those who like sweet ones. Smokehouse is much grown in this State. The bitter rot is a fungus, and must be met by spraying the trees with Bordeaux mixture throughout the season. All fruit trees should be sprayed regularly. Authorities say the bitter rot is best met by a compound composed of ½ ounce ammoniacal carbonate of copper to gallon of water, but I have never tried it. The trees are sprayed with it in August. All fallen fruit should be burned, to destroy the fungus spores.

Kudzu Vine.—Tell "Ignoramus" something about "Kudzu" vine. Is it desirable for porches? Ben Johnson.
Midville.

Kudzu vine is Dolichos Japonicus, a Japanese vine. The leaves are not unlike those of the lima bean; its flowers, rosy pink, in short racemes, something like very small wistarias. Its chief value is its enormous growth, 50 feet or more a year when the vine is but two or three years old. It is far too rank a grower for a porch. Better let it run up an old tree or cover bare place on the ground—somewhere where its enormous growth will soon give something green. I have seen it covering dead trees with a mass of green, creating beautiful objects. The shoots die back almost entirely in Winter, but this does not matter, as the new ones formed in Spring grow all the faster for it, and long before Summer is over have more than recovered the ground they lost.

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Horticultural Notes.

Cedar of Lebanon is entirely hardy in Pennsylvania. Besides its historic value it is an extremely beautiful evergreen. There are trees of it in Philadelphia over 50 feet high.

Shade Tree.—For an all around good shade tree, it is hard to beat the Norway maple. It is a handsome tree, with large deep green leaves, an ideal tree for the placing under of benches and chairs.

Rhododendrons and Azaleas of both native and foreign sorts like a partially shaded place, moist soil, of a light nature, and a mulching of leaves above their roots. They thrive then, and flower beautifully.

Beautifying Old Trees.—Many an old tree, shrub or a stump can be beautified by letting vines clamber over it. The Virginia creeper is one of the best for Autumn display, because of the grand color of its foliage at that time.

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It absorbs the injurious gases which collect in the stomach and bowels; it disinfects the mouth and throat from the poison of catarrh.

All druggists sell charcoal in one form or another, but probably the best charcoal and the most for the money is in Stuart's Absorbent Lozenges; they are composed of the finest powdered Willow charcoal, and other harmless antiseptics in tablet form or rather in the form of large, pleasant tasting lozenges, the charcoal being mixed with honey.

The daily use of these lozenges will soon tell in a much improved condition of the general health, better complexion, sweeter breath and purer blood, and the beauty of it is, that no possible harm can result from their continued use, but on the contrary, great benefit.

A Buffalo physician in speaking of the benefits of charcoal, says: "I advise Stuart's Absorbent Lozenges to all patients suffering from gas in stomach and bowels, and to clear the complexion and purify the breath, mouth and throat; I also believe the liver is greatly benefited by the daily use of them; they cost but twenty-five cents a box at drug stores, and although in some sense a patent preparation, yet I believe I get more and better charcoal in Stuart's Absorbent Lozenges than in any of the ordinary charcoal tablets."

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POULTRY.

This department is under the editorial charge of A. F. Hunter. All letters, inquiries and requests should be addressed to him at the Practical Farmer office, P. O. Box 1317, Philadelphia.

Leghorns as Winter Layers.

EDW. E. HIGGINS.

It is not my object in writing this to prove the qualities of one breed of chickens superior to others. We are aware of the fact that most every breed of chickens has warm admirers, and most people are conscientious in their admiration. Sometime ago we noticed a complaint entered by some writer, that Leghorn hens made poor Winter layers. This is contrary to our own experience. With due deference to the opinions of others, we wish to state that they make the best Winter layers that we ever kept, and we cannot help but think that a poor egg record through the Winter months was due to some cause other than the breed of chickens. Several years ago a neighbor informed us that we would get a larger egg yield through the Winter if we would keep Plymouth Rocks instead of Leghorns; believing this to be true we made the change; this, however, proved to be a vexing change for us, although we gradually increased the size of our flock each year our receipts for eggs did not increase at a corresponding rate. The first year we kept about 50 per cent. more hens than we had the previous year, and our receipts for eggs were less than they had been that year. This was certainly discouraging, as it took a great deal more feed to raise the Plymouth Rocks and more feed to keep them after they reached maturity. We do not desire to be understood wholly adverse to the Rocks, but we simply state the facts gathered from experience. They are an admirable fowl and have made some splendid egg records in the hands of expert poultrymen, but for the general farmer who desires to get a good egg yield, and undoubtedly this is the most profitable side of the poultry business, we think that Leghorns will succeed best. Finding the results so discouraging, we began, after a few years, to again add a few Leghorns to our flock, and the good results were so apparent that the change was made complete. Our egg receipts for this last year will not fall far short of $2.00 per hen, and the larger part of this was received from December to June, the largest sales of any two months being January and February. More often the poor results attained through the Winter is due to the kind of hens making up the flock, instead of the breed. The older a hen becomes the less apt is she to lay during cold weather. Whenever a flock is made up of well developed early hatched Leghorn pullets, they will begin laying in November, and with proper feed, care and housing, they will keep it up throughout the Winter; at least this has been our experience. Last Winter, on account of the inclement weather, we were obliged to keep our hens confined in the henhouse for nearly a month at one time, yet there was but little, if any, decrease in the egg production.

Jackson Co., W. Va.

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Poultry Queries.

Sore Head or Chigoes.—M. F. Bowie, Aiken, S. C., writes: "Will you please to give me through the poultry column of the P. F., some remedy for warts, or sore head on fowls? My daughter has raised a lot of chickens this Fall, and now they are about pigeon size they are badly afflicted with mattery pimples or warts on their heads and are dying. I suppose there is some preventive and cure for this disease. Their feed has been mostly corn bread baked dry." If you had read the poultry column of the P. F. for November 4th, just a month before the date of your letter, you would have found a remedy for sore head recommended by a Tennessee subscriber. Her remedy is: "Mix melted lard and white lead and paint the sores while the mixture is hot; repeat daily until the fowl is well." A better remedy, and one recommended by a medical man, is to mix a teaspoonful or two of Napcreal in equal amount of water and rub a little on the sores and over the skin of the head generally; and then rub on an ointment of a teaspoonful of Napcreal and two large tablespoonfuls of melted lard. The trouble is caused by an insect pest called chigoes (or "jiggers") and as they hibernate in the litter on the hen house floor and in the nesting material, you should sprinkle about a little Napcreal as a disinfectant and to kill the insects. If you cannot get Napcreal get "sulpha-napthol" moth balls, dissolve in kerosene (coal) oil and use instead. Your corn bread is an extremely one-sided ration. Chicks need a variety of food and particularly some meat food to make them grow. Add one-third wheat middlings to the corn meal of which you make your bread and feed some of Romaine's "B. B. B." or "Bowker's Animal Meal," or cut fresh bone or meat scraps.

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A Fine Kidney Remedy.

Mr. A. S. Hitchcock, East Hampton, Conn., (The Clothier) says if any sufferer from Kidney and Bladder Disease will write him he will direct them to the perfect home cure he used. He has nothing whatever to sell.

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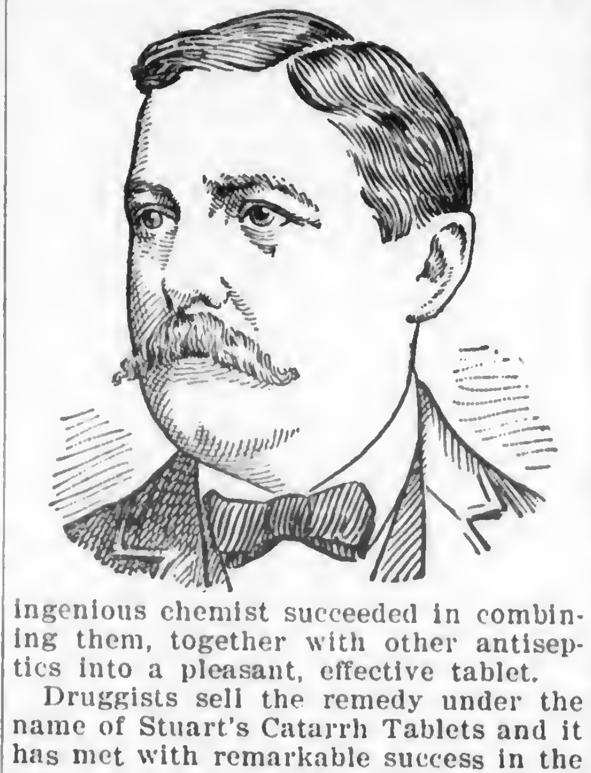

Druggists sell the remedy under the name of Stuart's Catarrh Tablets and it has met with remarkable success in the cure of nasal catarrh, bronchial and throat catarrh and in catarrh of the stomach.

Mr. F. N. Benton, whose address is care of Clark House, Troy, N. Y., says: "When I run up against anything that is good I like to tell people of it. I have been troubled with catarrh more or less for some time. Last winter more than ever. Tried several so-called cures, but did not get any benefit from them. About six weeks ago I bought a 50-cent box of Stuart's Catarrh Tablets and am glad to say that they have done wonders for me and I do not hesitate to let all my friends know that Stuart's Catarrh tablets are the right thing."

Mr. Geo. J. Casanova of Hotel Griffon, West 9th street, New York City, writes: "I have commenced using Stuart's Catarrh Tablets and already they have given me better results than any catarrh cure I have ever tried."

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The Practical Farmer.
FOUNDED IN 1855
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PROF. W. F. MASSEY, Editor.

Philadelphia, January 17, 1903

HON. JOHN HAMILTON, the efficient Secretary of Agriculture for Pennsylvania, says that he intends to recommend to the Pennsylvania Legislature the establishment of a new bureau in the Department of Agriculture of this State, to be a Bureau of Animal Industry. We hope that the suggestion will be carried out, for the live stock interests of Pennsylvania are immense and need such a bureau in efficient hands. The publications of the Pennsylvania Department of Agriculture are now second to none in the whole country as to scientific and practical value, and the addition of a Bureau of Animal Industry will add greatly to the value of the work which Dr. Pearson is now doing so well as State Veterinarian.

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The Catalogues.

With the beginning of the new year the Spring catalogues of the seedsmen and florists come to hand. In the South the Spring planting of the market gardens is already at hand, for the early peas go into the ground in January and the early potatoes are only a few weeks later, and after they are in the season runs up the coast rapidly. For the benefit of the seedsmen whose work means a rush for a few weeks, we would suggest that all who order their seeds by mail, and that means the great majority of the country people, should get the catalogues at as early a period as possible and at once make out their order for the Spring. The seedsmen will appreciate such early orders, and will have time to forward them promptly, while if you defer sending for your seeds till you are ready to plant you will get the order in in the rush of the Spring trade and may have it delayed in the shipment. So it will be better for you and the seedsman, too, to get your order in a month or more before you will need the seed.

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Home Grown Dairy Food.

At the meeting of the Pennsylvania Dairy Union at Harrisburg, in December, Prof. E. B. Voorhees, Director of the New Jersey Experiment Station spoke of intensive dairying, and the great development that is made in the soil through dairying. He urged that crimson clover, alfalfa and cow peas should be substituted for the purchased concentrated protein foods, and claimed that these home grown foods could completely take the place of purchased protein. This is what the Editor of the P. F. has been long insisting upon, and we are glad to have the support of such a wise and thoughtful man as Prof. Voorheees. The crops that feed the stock while at the same time they feed the soil on which they are produced, and through their feeding help to retain for the use of the farmer the fleeting nitrogen, that costs so much when bought either in a fertilizer or a feed. Let us keep hammering away at this as the only way to overcome the high prices asked for bran and other concentrated foods. When the dairymen of the Middle States fully realize the fact that they need not buy what they can get from their lands, and in the getting of it improve the soil we will see a great increase in the profit of the dairy.

Coloring Butter.

The Prairie Farmer objects to our recent editorial on this subject, and says that the P. F. "intimates that an agricultural paper that dares to speak the truth should take down its sign." The P. F. intimated nothing of the sort, but did intimate that an agricultural paper which joins the ranks of the enemies of the oleo law should take down its sign, and go under its proper colors. We fully agree with the Prairie Farmer that "it is in the enforcement rather than the multiplication of laws that remedies are effected." Now we have a good law, which has greatly decreased the fraudulent sale of oleo for butter. Let it be rigidly enforced. All this talk about the coloring of butter is part of an effort to weaken the law. Butter was colored long before oleo was invented, and the sole purpose of coloring oleo is to enable men to perpetrate a fraud on the consumer. In regard to the pale yellow oleo on the market, the Editor wrote from practical observation and he can supply it to the Prairie Farmer if wanted. With the oleo law and the pure food law we may be able to fight all frauds if the laws are enforced. But let a farm paper refrain from covert attacks on the law that protects dairymen.

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The Tobacco Prospect.

Down in North Carolina the tobacco growers have had a convention for the purpose of devising means for protecting their interests against the two combines which have pooled their interests for their mutual advantage. During the past season the competition between the American and the Imperial tobacco companies resulted in the growers getting fine prices for their crops, and the tobacco growers were in fine spirits. Late in the season these two companies came to an understanding and agreed not to compete as they were doing, but each to take its own part of the business. Prices for tobacco at once declined. The recent meeting was for the purpose of devising some means by which prices can be maintained at a remunerative figure to the growers. It is feared that the profitable crop of the past season will lead to too extensive planting this year and that therefore prices will fall below a profitable figure. Efforts are to be made to reduce the acreage in tobacco, but like all such efforts they are certain to fail. Human nature is the same with tobacco growers as with other farmers and the difficulty in securing a general reduction of the area arises from the impossibility of getting all to stick together. Men in other lines of business will unite and stand together, but experience has shown that farmers rarely will. A man gets an idea that there will be a general reduction in the area planted, and at once he makes up his mind that the prices, therefore, will be good, and he will get in an extra large crop so as to be in on top. Then hundreds of others come to the same conclusion and the area is increased instead of diminished. Years ago, when cotton was down to a very low figure, there were strong efforts made to get the farmers to plant less, but the effort was of little use, and only the hard experience of low prices got the cotton farmers to grow more of other and food crops. There is no doubt that if the area planted in the bright tobacco district was greatly diminished this year, prices would be more remunerative than it is likely they will be with a largely increased planting, for Trust or no Trust, the law of supply and demand will get in its work when the country at large is so prosperous and the demand for the manufactured article so great. The trusts will get their innings only when the increased supply is more than the demand for the manufactured article. It would be wise for the tobacco growers in the bright tobacco belt to plant less tobacco this year, but we have little hope that they will do so, for we farmers, as a rule, learn only in the costly school of experience, and the chances are that the growers will play into the hands of the trusts. In the long run, the farmer who plants year after year his regular crop of anything will come out ahead. He does not lose his head when a certain crop pays extremely well, but sticks at his regular crop, and when the next season the low prices prevail he is not so badly hurt as others. And the next season when the discouraged planters are dropping that crop he comes up smiling with his usual acreage and gets good prices. And at the same time he is practicing a regular rotation and not depending entirely on the special crop. If we could but get all the farmers, whether wheat farmers, corn farmers, cotton farmers or tobacco farmers, to farm systematically for their specialty, and never make it a sole crop, tho variations in the market would have less effect on them. It is the men who habitually put all their eggs in one basket who get hurt when the basket falls. The sole cure for these variations is systematic farming.

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Pennsylvania Farmers' Institutes.

The systematic organization of the Farmers' Institute work in Pennsylvania furnishes a model for most of the States. The State is divided into five Institute districts, each with its corps of lecturers, so that Institutes are held simultaneously in widely separated sections of the State. Bulletin No. 103 from the Pennsylvania Department of Agriculture is a compendium of information in regard to the Institutes for the present Winter. The whole work is under the charge of Hon. A. L. Martin, Deputy Secretary of Agriculture, and the bulletin gives full information in regard to every Institute, its location, the speakers and their topics. Still further, every one of these lecturers has a biographical notice in the bulletin, telling where he was educated, what he has done and is doing in the way of practical agriculture, dairying or gardening, so that the folks who attend the meetings can form a pretty correct idea of the sort of men who will address them and what they are qualified to talk about profitably. Examining this thorough organization with its full corps of trained speakers, we feel that there is a necessity in every other State for just such work. We wish that the farmers of every other State south of Pennsylvania could understand what Pennsylvania is doing and could be induced to bring such a pressure on their State Legislatures as would result in similar organizations all over the South, where they are needed worse than elsewhere. The Legislature of North Carolina, for instance, meets in the present Winter, and if every reader of the P. F. in that State would write to his Representative in the Legislature urging the necessity for means for the organization of Farmers' Institutes in the State, the letters will have their effect and the organizations will be made. If our readers in every other State where Institute work is not yet fully organized would do the same thing when their Legislatures meet, we would soon have the Institutes in better shape. All that is necessary is to let the Legislators know what the majority of the farmers want and they will get it, for there is nothing a politician likes better than to please his constituents.

The Cream of the Bulletins.

New Jersey Agricultural Experiment Station, New Brunswick, N. J. Bulletin 161. Alfalfa, Cow Peas and Crimson Clover as Substitutes for Purchased Feeds. Home Grown Protein vs. Purchased Protein. By Clarence B. Lane.

The work of the various Stations is rapidly showing to the farmer and dairyman that there is no need for their buying bran and other things in order to balance their rations with protein, and that this costly part of the food for stock can not only be grown on the farm but the farm will be bettered by the growing of the crop in the acquisition of nitrogen aside from the value of the manure made from the feeds. The Delaware Station began this work years ago, and demonstrated that the cow pea could be made to supersede purchased bran. Then the Tennessee Station took up the work with the same results. And now the present bulletin shows that the New Jersey Station has determined the same thing. The high prices that dairymen have lately had to pay for bran and other concentrated protein foods should direct their attention to these results, and should induce them to experiment for themselves. When the dairymen of the country once find out that these results are true, the day is gone by for exorbitant prices for mill offal and the special protein feeds. The very crops that aid the farmer most in the building up of his soil and increasing its power to feed stock are the very ones that furnish him with the most protein, the most costly part of his rations, as the nitrogen is in a fertilizer. Hence the legume crops are becoming the sources for nitrogen in the manures and in the soil and for protein in the foods, and the progressive dairyman will soon see that he has been spending money for what he does not need to buy, and has been losing the benefits from crops that would have furnished him the food while improving the soil. The object of the New Jersey experiments were to study the relative value of the home-grown product and the purchased food upon the yield of milk, the composition of the milk, the cost of the milk and butter, and the influence on the individual animal. First, two rations, the one composed of alfalfa hay and corn silage, and the other of mixed hay, corn silage, wheat bran and dried grains, were fed. The rations were practically the same as regards protein, while the fat and carbohydrates were slightly greater in the mill feed ration. The alfalfa and silage were grown on the farm, while the protein in the other ration was mainly purchased. The result showed that it was practicable to substitute the protein in the alfalfa for that in the purchased feed without materially changing the yield or quality of the milk produced. One pound of butter from the alfalfa ration cost 11.1 cents, while one pound from the purchased feed cost 16.7 cents per pound, and the cows maintained the same weights, or slightly decreased with the purchased food. In another trial the protein was derived in one ration from crimson clover. The food cost per 100 of milk from the crimson clover ration was 18.3 cents, or 20.4 per cent. less than that from the purchased feed. On the basis of milk production, the gain from feeding the crimson clover ration to two cows for 24 days amounted to $1.76. Apply this to a herd of 30 cows and the gain would be $33 a month. It showed that there is not only a profit in feeding crimson clover valued at $12 per ton, but the price put on it was a considerable profit to the farm growing it. The dairyman growing it would make both profits. A similar experiment was made with cow pea silage as the source of protein as compared with the purchased protein. Crimson clover hay was used with the cow pea silage, as part of the ration to make protein equal to the bran and grain. The bought ration had in this experiment some cotton seed meal added. One cow fell off in yield when changed from the cow pea and clover ration to the feed ration and others lost smaller amounts. The two rations produced practically the same amounts. Rating the foods at market price and leaving out the cow pea silage by simply putting it at cost of production, the home grown ration produced 100 pounds milk at a cost of 66.9 cents and from the purchased ration 69.9 cents. The actual cost to the grower of the silage and hay would, of course be much less. The results of this experiment are significant in showing that a ration composed of home-grown crops, though costing nearly as much (when the crops are figured at market price) may be fully equal as a milk producer to a ration in which protein is largely supplied by purchased feeds. "Home grown crops were utilized in the dairy at a greater profit than could have been realized by selling them at the market price." And not only this, but as we have said, the very growing of the feed was a help to the farm, and the feed value was largely a gift to the dairy.

Our Business Corner

THE FARMER CO.,
S. E. Cor. Market & 18th Sts., Philadelphia.
HENRY HARRIS, Business Manager.
Special Advertising Representative
S. E. Leith, New York.

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Club Blanks.

Every subscriber of the P. F. will find in his or her copy of the paper this week, a club subscription blank. This is a special invitation to each one to raise at least one of those 6-name clubs. As there is space on each blank for 12 names, two of the clubs can be sent on it, which would give the club raiser a choice of any two of the 13 special premiums which we offer for these clubs. Of course, a good many of our friends have already raised these clubs, and our invitation to them is therefore not so urgent. But to every one who has not yet done so, this is a special reminder that we are waiting to hear from them. The clubs are coming in at a most encouraging rate by every mail, showing that it only requires a little effort on the part of every friend of our paper to make a big showing in the way of new subscriptions. This is just the time to introduce the P. F. into new fields, and if every one would strike now, while the iron is hot, the result would be most gratifying. As we said last week, we have gone into the new year with the largest subscription list in our history and that list can be doubled in the next 30 days if we can hear from only part of our subscribers who have not yet sent us a club.

COMMERCIAL

Philadelphia, Jan. 10, 1903.

WHEAT.—		
No. 2, red	76¼@	76½
No. 2, Penna. and Del.	77¼@	77½
CORN.—		

There was a fair inquiry for export, and, with higher Western advices and light offerings, prices advanced 1c.

No. 2, yellow	51¾@	52
OATS.—		

Offerings of car lots were light and prices ruled steady, but trade was quiet.

No. 2, white clipped	41	
BUTTER.—		
Best prints	31 @	32
Firsts, creamery	29 @	30
Seconds, creamery	26 @	27
Ladle packed	17 @	20
CHEESE.—		

The market ruled firm under light offerings, but transactions were mostly limited to small lots to tide over actual wants.

Full cream, choice, small	14	
Full cream, fair to good	13½@	13¾
Part skims	10 @	12
LIVE POULTRY.—		
Fowls, per lb.	11½@	13
Spring chickens, per lb.	11 @	12
Ducks, per lb.	13 @	14
Geese, per lb.	12 @	14
Turkeys, per lb.	14 @	15
DRESSED POULTRY.—		
Fowls, per lb.	11 @	13
Chickens, per lb.	12 @	15
Turkeys, per lb.	15 @	20
Ducks, per lb.	15 @	18
Geese	11 @	14
EGGS.—		
Nearby fresh	28½	
Western, choice	28½	
FRESH FRUITS.—		
Apples, per bbl.	1.50 @	3.00
Cranberries, Jer., per crate	3.00 @	3.50
Cranberries, Cape Cod, bbl.	11.00 @	12.00
Oranges, Jamaica, bbl.	4.00 @	5.00
Oranges, Fla., per box	2.50 @	3.25
VEGETABLES.—		
White potatoes, Pa., per bu.	65 @	68
White potatoes, West., bu.	63 @	65
Sweet potatoes, Jer., bas.	60 @	65
Cabbage, per ton	5.00 @	9.00
Onions, per bbl.	1.75 @	2.00
BEANS AND PEAS.—		
Marrows, H. P., per bu.	1.75 @	2.70
Scotch peas, per bu.	1.75	
HAY AND STRAW.—		
Timothy, choice, large bales	18.50 @	19.00
Straw, straight rye	14.50 @	16.50
Straw, tangled	11.50 @	12.00
Wheat	10.50 @	12.00
Oat	9.50 @	11.00
FEED.—		
Bran, bulk, Winter, per ton	19.00 @	20.00
Bran, sacked, Spring	19.00 @	20.00
COTTON.—		
Middling upland	8 9-10	

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle steady on good grades.

Extra steers	5⅞@	6
Good steers	5¼@	5¾
Medium steers	4¼@	5
Common steers	3½@	4
CALVES.—		

Veal calves firm and active.

Extra calves	9 @	9½
Fair to good	7 @	8½
Poor and common	5½@	6½
Grassers	3½@	5½
HOGS.—		

Hogs about steady.

Fat hogs, Pa., Del. & Md.	6 @	8¼
Fat hogs, Western	8½@	9
SHEEP.—		

Sheep and lambs steady.

Sheep, extra wethers	4 @	4½
Sheep, good	3½@	3¾
Sheep, medium	2½@	3¼
Sheep, common	2 @	2¼
Lambs	4 @	6⅛

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The New York Market Review.

This is usually the quiet season for most farm products, and trade in nearly all lines is easy, while prices show a decided tendency to drag. In a good many lines, however, the season of dullness here has been marked by healthy movement and general demand. Prices are high for nearly all products, and there has been very little reaction since the holidays. The undertone of the markets is strong and healthy. In the matter of dairy products prices are firm and high, and supply of stock not great. Fresh creamery butter is not only firm, but in pretty good demand, while jobbers are looking around for fancy fresh goods to meet current demands of their customers. The call is chiefly for fancy fresh goods, although storage butter has a fair demand and is in better condition than usual at this time of the year. Undergrades of storage butter and State and Western ordinary packings are easy. The receipts of butter for the week were nearly 29,000 packages, a considerable gain over that of the previous week. Cheese is firm and higher, with total weekly receipts placed at 12,410 boxes, and exports 5,054. Stocks of good cheese are small, and all new cheese is eagerly taken up at 12 to 14c. per pound, according to quality. Exporters continue to look for cheap grades of cheese for their business, but there is very little to be found.

The grain market maintains a steady undertone in the face of heavy liquidation after the holidays, and a good deal of selling of futures for short accounts. Seaboard clearances which have been good are temporarily small at present, but European prices are on a firm basis. Bullish news is expected to carry the market higher as the new year advances, and stock estimates can be more easily verified. Export buying of corn has been good lately, and there is a rather bullish undertone to this cereal. There is a liberal interior movement, and this partly offsets any sharp advance. In oats the Western markets have considerable active trade, and cash business here is firm and active. Barley, rye and malt are in good condition, with trade demands fair at full prices.

There have been few Winters when poultry and eggs were higher and in more general demand than the present, and all through the holidays and since high prices have ruled for all desirable grades. That a good deal of dressed poultry was delayed in the rush and injured so that it had to be sold quickly, had a bad effect for a time on the market, but otherwise conditions were all favorable. Fancy turkeys are firm and scarce now, either live or dressed, and the former are 14 and 15c. per pound, and the latter 17 to 19c. Most of the fancy grades of turkeys in the freezers are held higher than these prices because of the small receipts of desirable fresh turkeys. Nearly all desirable chickens and fowls have also a firm and active market. Capons are selling rather slowly, but that is because of general poor quality of receipts. Ducks are steady and in moderate supply, but geese are temporarily heavy. Tame squabs are firm and active. Eggs continue high and firm, with fancy refrigerator firm and ready to take advantage of every advance. The scarcity of beans continues a marked feature of this market, but demand is not so urgent, and neither domestic or imported are selling much. All choice standard beans are quoted at top prices, and dealers can find buyers for them. Imported beans are working out slowly, but with confidence. Likewise good hay is in small receipt, and dealers sometimes have difficulty in supplying customers with all their needs. A good many of the railroads decline to carry hay at present, and this hurts the market, but the car shortage may continue for some time. Fancy hay is worth $1.05 per 100 pounds. Market is firm and higher for good straw and long rye is worth 77 to 87 cents per 100 pounds.

There is some improvement in potatoes, but supply continues ample, and imports are increasing. Sweet potatoes are more plenty and easier. Onions are barely steady owing to general poor quality and prices are extreme in range. Extra fancy apples are in demand, but low and ordinary grades are quiet. Grapes are mostly poor and dragging, but cranberries are firm and active, with unusual prices for this season of the year. Pears are nearly out of the market.

G. E. W.

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New York, Jan. 10, 1903.

WHEAT.—		
No. 2, red	79	
No. 1, Northern Duluth	86	
CORN.—		
No. 2	56½@	58
No. 2, white and yellow	57½	
OATS.—		
No. 2, white	41	
HAY.—		
Prime, large bales, 100 lbs.	1.05	
BUTTER.—		
Creamery, extra	29	
Creamery, firsts	26½@	28½
Creamery, seconds	24 @	26
State dairy tubs, fancy	26 @	26½
CHEESE.—		
Full cream, small	13½@	14
Full cream, choice	13½	
Light skims, small, choice	12	
Light skims, large, choice	11¼@	11½
LIVE POULTRY.—		
Ducks, per pair	70 @	1.00
Geese, per pair	1.25 @	1.62
Fowls, good to prime, per lb.	12 @	13
Turkeys, per lb.	14 @	15
DRESSED POULTRY.—		
Spring turkeys, per lb.	13 @	18
Spring chickens, per lb.	18	
Spring geese, per lb.	10 @	12½
Fowls, good to prime, per lb.	11 @	13
Squabs, poor to prime, doz.	1.70 @	3.00
EGGS.—		
State and nearby	25 @	33
Western	20 @	29
GREEN FRUITS.—		
Apples, per bbl.	75 @	4.00
Cranberries, per bbl.	6.00 @	12.00
Cranberries, per crate	2.50 @	3.25
Grapes, per case	1.00 @	1.50
Grapes, per bas.	8 @	14
Oranges, Florida, per box	1.50 @	4.00
POTATOES AND VEGETABLES.—		
Potatoes, Jer. per bbl.	1.75 @	2.00
Penna. & Western, 180 lbs.	1.50 @	2.00
Sweet potatoes, per bbl.	2.25 @	3.75
Celery, Western, doz. bun.	10 @	1.00
Onions, per bbl.	1.50 @	7.00
Cauliflowers, per bbl.	2.00 @	6.00
Turnips, per bbl.	75 @	1.75
Spinach, per bbl.	40 @	75

Farm Wagon only $21.95.
In order to introduce their Low Metal Wheels with Wide Tires, the Empire Manufacturing Company, Quincy, Ill., have placed upon the market a Farmer's Handy Wagon, that is only 25 inches high, fitted with 24 and 30 inch wheels with 4-inch tire, and sold for only $21.95.

This wagon is made of the best material throughout, and really costs but a trifle more than a set of new wheels and fully guaranteed for one year. Catalogue giving a full description will be mailed upon application by the Empire Manufacturing Co., Quincy, Ill., who also will furnish metal wheels at low prices made any size and width of tire to fit any axle.

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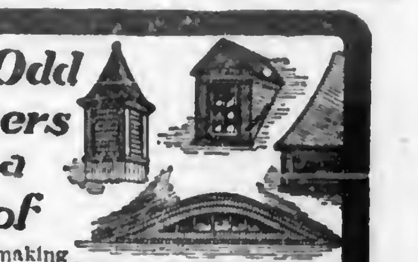

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The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Editorial Chat.

Ere this reaches the H. C. readers Christmas will be a "matter of history," and the New Year "leaf" will have been turned so long that, in some cases, it will have just naturally fluttered back into its old place. It is queer why resolutions, entered upon with such good faith, break so easily. Most of us have a double self, the two continually at war. Like one of old, "When I would do good, evil is present with me." December in Wisconsin has been no mid-Summer dream, but the weather has not been nearly so bad as in many other sections. Sister Merryman writes from Florida, under date Dec. 16th, "I am sitting by a cheery pine fire with my writing. The Other One is outside grinding cane by the syrup furnace. I have a glass of the delicious juice on the table to sip from between thoughts. I think we may have a frost tonight so the mulch will have to be put over the strawberry patch. We had a lovely mess of strawberries last Sunday, but as they are not yet in full bearing we cannot have them every day. Our green peas are just coming on now and they are fine. After all, I would like to visit the apple and vegetable cellars of my old home in far-away 'Yankeedom.'" Of course those strawberries and green peas make us a bit envious despite our cellar stored full of good things.

But oh, friends, how little we know of what this severe Winter means to the very poor. Even in the larger cities of Wisconsin there are attics and cellars unlighted and unwarmed, where mothers and their helpless babes huddle under a few rags in speechless misery. Only this week we read of the Superintendent of Poor, in Milwaukee, finding a fireless room containing a bed of rags in which lay a mother with her new born babe, while on the bare, icy floor crouched two little half naked tots, no older, perhaps, than the child in your home that you still call "the baby." The father is in the reform school.

"I wonder that any girl will marry," remarked a gentleman recently, as we conversed of the numerous instances, within present knowledge, of direst misery resulting from taking the step.

Before leaving Yuletide subjects, we must tell you of a Christmas present sent us by our shut-in friend, Rosalie V. Miller, of Lodi, Wis. It is nothing more nor less than an art calendar, and the loveliest thing. You see she knows what the rest of you do not, and that is that my peerless Maltese pet, "Jack," died a few weeks since; but it must have been inspiration that made her send this calendar, which is called "Cats and Kits," for she did not know how ardently we are longing for another baby kit, a genuine blue blood; but these pictures are quite consoling, and we thank her heartily.

* * *

And this leads on to shut-ins and reminds us of a private letter received last evening from which we quote, knowing full well that a generous response will follow. Is it not wonderful that even with one's pen she can sit in her own home and "feed my sheep; feed my lambs."

"Dear Mrs. Melville: We have taken the P. F. for some years and no other paper can fill its place in our home. I always turn to Editorial Chat as soon as it comes, and I want to thank you for the pleasure you have given me in these little talks. I have never written for the H. C., but as I am an invalid I want to talk to you, knowing full well that I shall have your sympathy. I have not walked since last May, and may never walk again. Have dropsy and rheumatism and have had a shock. The doctor says I may have another any time. I suffer most of the time. It was hard to bear in Summer when I had the birds and flowers, but so much worse now. I have a devoted husband and son who do the work and care for me, but of necessity they are much out of doors. We live on a farm and sometimes two weeks will pass without anyone coming in. When I feel able I amuse myself with calico, worsted or silk patchwork when I have anything to work up. I dread the holidays and all the days that remind me of old times when my own family and those of my two sisters made merry together. Now one of my sisters is fatally ill. When my head is not too bad I read what I can get to read, but our supply is not large. After reading about Ellen Kinney's birthday party I am tempted to ask for a letter party, though my birthday is past. It would bring such cheer into the tedious, lonely hours, and I could read them over and over." Now we know this is enough, but instead of asking for a letter party on a certain day, thereby running through with a good thing all at once, we are going to say, let us all write a letter of cheer or gloom—just according to our mood. Sometimes it does one good to hear of other people's sufferings—and enclose a bit of calico or silk, or a nice little story or poem clipped from somewhere, or a taking picture or a card or anything calculated to while away a tedious hour, for one shut-in.

"If you've had a kindness shown
Pass it on."

The husband of this afflicted one, before mailing her letter, added: "Since writing the above, my wife has had another slight stroke, but is improving again."

Parties responding will address Mrs. C. H. Sleight, South Glensfalls, Saratoga Co., N. Y.

* * *

A reader from Osceola, Iowa, wants to learn some new way of disposing of a quilt made by their church aid society. Their names are on the blocks. We only know of the two ways—lottery and auction. Who can help us out?

How John Brooks Became a Farmer.

M. E. DAVIS.

One dreary morning in March, John Brooks could not attend to his studies as usual. For some time past his health had been gradually failing. He wished to graduate that year, as he intended entering a law college after the Summer vacation. It had been uphill work with him nearly all his life, his father dying when he was fifteen, and his mother not many months after, leaving nothing behind except a good name. He worked for a year for a large dry goods firm, barely earning his food and clothing. He then saw an advertisement, reading, "Boy wanted to help a dairyman night and morning for his board and clothing. Can attend school during the day." He seized eagerly at such a chance, and although the work was hard, he stuck to it for three years. At the end of that time he graduated from the public school. A friendly carpenter then offered him a situation for a year, which he accepted, saving enough in that time to pay for one year in college. After that he worked his way earning money by any honest means. He won many friends, who helped him all they could, but all things have an end. This morning everything was at a standstill; his tired brain refused to work; human nature could stand no more. He felt dazed, and scarce knowing what to do, seized his hat and started for a walk, thinking the cold air would do him good. Shortly he met Dr. Day, an old friend of his father's, who said cheerily, "Hello, John, what's up?"

"I don't know," answered John.

"Come along with me," said the doctor, "and we will soon see."

A few steps brought them to the office, and after many questions being asked and answered, the doctor gave his verdict: 'Nervous prostration. No study for several years. Complete rest of mind and moderate exercise of the body."

"But, doctor, what shall I do?"

"Have you no relatives or friends to whom you can go?" asked the doctor.

"Not one," he answered.

The doctor took a turn through the room then asked: "What has become of your great-uncle, John Brooks, for whom you were named?" John started at this and studied a moment, then aswered: "I had a letter about New Years from Squire Brown, telling me my uncle was dead and had left me that old farm of his. As I knew it was worthless I thought no more of it."

"The very thing," said the doctor. "Go down there and vegetate for a year or two, and you will be a new man."

"But what shall I live on in the meantime? I have no money and am scarcely able to work."

"You can surely scrape some sort of a living for a time at least."

"I will have to try it anyway, as I have nowhere else to go."

So saying John took his departure, returning to his room and beginning at once to pack his few belongings. He had some carpenter tools and a number of books, some of which he took to the second-hand book store and sold, to get enough money to pay his carfare to Pleasantville, where his farm was situated. After his task was finished he sat down to rest and try to plan his future, but his mind was a blank. Here he was, at twenty-three, strength and ambition gone; education unfinished, and no means of a livelihood. On Monday he took leave of his fellow students and his native town and set out on his journey with a heavy heart. Arriving at his destination about noon, he started to find Squire Brown. A rosy cheeked girl of about twenty Summers answered his knock and ushered him into her father's library. John soon made himself known and stated his errand. The business was soon arranged satisfactorily. The Squire explained that the farm was about worthless, and the taxes had not been paid for a time.

"I know it is not worth much," said John, "but I only wish to stay on it until I regain my health." The Squire gave him the keys, and he started across the fields to the lonely old farm house. There were fifty acres in all, ten in woodland and pasture and forty cleared, but either swampy or stony and rough. It was on a southern slope and at its foot a silvery creek wended its way. A country road ran by the house, on either side of which an old worm fence was falling to decay and growing up with sumac and blackberry bushes. An old barn stood below the road, with hand-made oak shingles, with the ends turned up, on the roof. The lean-to was almost tumbling down. The house was on the other side of the road. Some of the window panes were broken and the roof was in bad condition. On the left a spring bubbled up and ran across the road into a large watering trough in the barnyard; on the right was a vegetable garden; in front a spacious lawn swept down to the road, filled with weeds and briars of all kinds. An orchard of half dead apple trees occupied the slope behind the house. John surveyed the desolation, and a wave of longing for the busy streets of the city came over him.

"How can I endure it?" he thought. Unfastening the door, he entered an old-fashioned kitchen with a big wood fire-place, in which a lot of wood was piled. He soon had a bright fire burning. He then took a look at the premises. Everything was just as his uncle had left it, and as he had remembered it on his one visit, when a child. His uncle's big arm chair stood in the chimney corner. The shelf above the fire-place held the old blue delft candlesticks; several chairs and a table were scattered about the room. In the kitchen bedroom an old-fashioned bed and dresser stood, and there was a feather bed and several blankets. "That looks quite comfortable," he thought. "I can keep warm, anyway." He next went to the barn and found a few old farming implements and a wheelbarrow. With the latter he started to the village to get his baggage and some supplies, as he had saved a few coins after his fare was paid. He soon returned and went about making his new home more comfortable. So he passed a week. He now felt stronger and more hopeful. He looked his situation in the face. Money he must have to live, so he set out for the village to look for work, going to the Squire's office first. He soon procured several small jobs, which kept him busy for several weeks, as he could not work a whole day at a time. About this time he received a letter from Dr. Day, making inquiry as to how he was getting along and what his prospects were, and if he were going to do any farming, and saying that he was going to send him some books on gardening and poultry. He received the books in a few days and soon got interested in them. Then he thought how nice it would be to have a garden and a few chickens. First he built a small hen house, then procured a half dozen hens, which were his nucleus in the poultry business. He then sent for several dollars' worth of seeds, not forgetting a few flower seeds, as he was a great lover of the beautiful, and had acquired some knowledge of flowers while helping the gardener in the college grounds. A neighbor plowed his garden and also about an acre of old sod, at the lower end of the orchard, where he planted potatoes and sweet corn. In exchange he did some carpenter work for the farmer. He also got his seed potatoes and corn the same way. He now felt better in every way, and soon had his garden made. He found plenty of pie plant, horse radish and asparagus along the fence. He could not do much with the lawn but mow the briars off and trim the lilac and rose bushes.

The Spring days seemed to fly by. The dead limbs were sawed off the apple and cherry trees, the house roof patched, the old lean-to torn away from the barn and the lumber piled up to build a better poultry house by and by. He got several of the village cows to pasture; thereby getting plenty of butter and milk. The weeds grew apace, but by steady perseverance he succeeded in raising pretty fair crops. When resting he studied his farm and poultry books. A great love of farm life took possession of him. His life at college seemed a far off dream. So passed the first Summer. In the Fall he found he had vegetables and fruit for his use and some to sell, and also had enough hay and feed for one cow, which he purchased with money he had made in various ways during the Summer. His varied experiences stood him in good stead, as he could take care of a cow and do his household duties with ease. He raised about fifty chickens, selling all but twenty-five, which kept him well supplied with eggs all Winter. As the long evenings came he felt the need of companionship or books, so he subscribed for several good magazines and farm papers. A literary society was formed in the village, which he attended occasionally, and was soon drawn into the debates. Before the Winter was over he was elected leader and was also invited into the church choir. The Squire's pretty daughter was the organist, which had a good bit to do with his joining the choir. So it came about he frequently walked home with Bessie Brown. But the Winter was not spent in idleness. Posts and rails were cut for new fences, old fences were torn away and the briars cut down. He planned to plow the old meadow, plant it to potatoes, set out raspberry plants in each alternate row, and put out one-fourth acre in strawberry plants. Another lot to the right of the orchard, containing a couple of acres, he would put in corn. The Spring opened early and warm. A large hotbed was made in which thousands of seeds were sown. John was busy from daylight till dark. He sold his cow and bought a horse so he could do his own plowing and hauling. He set out large beds of asparagus, horse radish and pie plant. A man came along from the city who bargained to buy all his surplus vegetables. It was not long ere he realized a snug sum weekly from the sale of these and plants. He again pastured a few cows. In return he took butter and milk. Twenty-five acres of the farm was on the lower side of the road, and was wet and stony. When he had spare time he plowed furrows up and down at short intervals; then dug them several feet deep and hauled stones and piled them near the ditches. These he broke up fine, putting about a foot and a half in the bottom and filling up with soil, so getting rid of the stones and draining the land at the same time. The soil was really good, but rough, as it had never been thoroughly worked. Then another Summer passed away. He sold enough vegetables to partly pay the taxes and buy a few necessary farming implements, and raised about one hundred and fifty chickens, of which he sold one hundred, realizing a sum sufficient to make some needed repairs about house and barn. His eggs brought him a neat sum each week. In the Spring he was enabled to purchase another horse and a cow. The huckster who had bought his produce the year before now came twice a week, buying all he could raise, so he devoted his whole time to his garden. Before the season was over the taxes were all paid, the house and barn newly roofed and new fences and improvements everywhere. Another year he would have the wet land ready for cultivation. He put out an orchard and more small fruits. In a few years he became a prosperous farmer and Bessie Brown shared his fortunes.

Our Book Table.

VELMA CALDWELL MELVILLE.

"THE SPENDERS."—Well, if you have never had the privilege of spending all the money you want to, you had better read this book; enter right into it and for once you will enjoy the sensation of feeling millions slipping through your fingers. There is not a dull page in it from the death of "Daniel J.," which event occurs in his palace car and opens the story, to the last chapter, which records so graphically his son's rather uncommon but successful wooing. You fall in love with good, old Uncle Peter on his first introduction:

"Standing beside a boulder of gray granite, before a background of the gnarled dwarf cedars, his hat off, his blue shirt open at the neck, his bare forearms brown, hairy and muscular, a hammer in his right hand, his left resting lightly on his hip, he might have been the Titan that had forged the boulder at his side, pausing now for breath before another mighty task. Well over six feet tall, still straight as any of the pines before him, his head and broad shoulders in the easy poise of power, there was about him at a distance, no signs of age."

Posing thus he waited to hear what news Billy Brue, the messenger sent upon his trail, had brought him. We can almost hear Billy stammer: "Why—uh—Dan'l J., he's dead."

"Dan'l J.—he's dead;—why who else is dead too?" queries the old man.

"Nobody else dead—just Dan'l J.—he's dead."

"Jest Dan'l J.—my boy—my boy. Dan'l dead?".

His mighty shape was stricken with a curious rigidity.

"Dan'l!"

And then again: "Why, I nursed that boy when he was a dear, funny little red baby with big round eyes rollin' around to take notice; he took notice awful quick—fur a baby. Oh, my! Oh, dear! Dan'l; Dan'l had his faults but they didn't hurt him none."

We thoroughly enjoy every word that proceeds out of this gnarled old multimillionaire's mouth, from this first sad introduction to the day when, boarding a New York train bound for the West, he flung back this parting shot at his grandson: "P. Percival Bines, change your name back to 'Pete,' son, when you get west of Chicago. 'Taint anything fancy, but it's a crackin' good business name for a hustler!" One of his crisp sayings, at least, one can never forget: "I am happy, because I know how to be rich and still enjoy all the little comforts of poverty."

To us Uncle Peter is the central figure in the story; to another reader his grandson would be; to another Alice Millrey; but of course it takes these and dozens more marked characters to make up the personnel of this really fascinating story. While this is in no sense an historical novel, it deals out a vast amount of history of one sort—the inner history of New York's 400, and a few chapters on Wall Street. It portrays vividly the different characteristics of the East and West. It gives the average man and woman, as we know humankind, views of life quite ultra, amusing and even instructive. While we are loath to believe that marriage is held to be such mere barter among certain classes, yet the daily press of our country seems to validate the claims made by this writer. The whole story is realistic and, unlike most recent books, carries us up to yesterday; but we are left with the abiding conviction that if we were in Montana City tomorrow, we should met good, blundering Mrs. Bines and have a chat with her about her New York proteges; meet Psyche and her Englishman, and we would, of course, inquire after those Casselthorpe twins; wring Uncle Peter's hand and congratulate him upon being once more in "God's own country," and last, but not least, renew our acquaintance with Percival and Avice. The book is handsomely bound in red and gold; will make a charming gift to either a young man, a maiden or a business man, and would not come amiss to anyone else. No public library can afford to be without it.

Among the Flowers.

TILEA E. HUFF.

I now have some fine pelargoniums. The plants, as you know, are expensive, and my pocketbook is often empty, so I have long wished for them in vain, until the plant and seed due bill, offered by our P. F., gave me the chance to get some seeds. These were carefully planted and watched and in less than two weeks 3 plants came up and grew very fast, but I looked in vain for more. I am afraid I rather blamed the seedsman in my own mind. However, I let the pot of soil stand, only sprinkling some sand on top, and putting some geranium cuttings in it. Just three months after the first pelargoniums started, three more came up.

Moral.—Don't find fault with the seedsman until you have given his seed a fair trial, as in my case three months was none too long to wait for the seed to come up.

Correspondence.

One of the brethren, Wisconsin, writes: Dear Mrs. Melville: I have just been reading the words of "A Mother," in your columns of the P. F., upon the subject of having too many children. There is a good deal of truth in what she says, but I suppose there is little chance of her words reaching the ears of those who need them. After all, it seems to me that there is more need, at this age of the world, of words on the other side of this question. "A Mother" confesses to, or claims to have borne four children. Presumably has brought them up in the way they should go, and has given them an education satisfactory to her. Probably has had an influence upon them which will lead them to improve upon her example and give their children a better education than she has given hers, and in order to do it, will draw the line at a smaller number than is her limit—if indeed their education does not make them, as my good mother used to express it, "too nice or too wise" to have any at all. Now, I think "A Mother" has done pretty well to have borne four children, but I believe she would have done better had the number been eight. As I look around among my friends and acquaintances I think I see many more families which are suffering from too few children than from too many. I have a neighbor who is the mother of fifteen, all but one of whom are living, and all who are grown up, are filling useful and honorable positions in life; and the lady is today the perfect embodiment of womanly health and vigor. I need not say that she is not a Yankee. I would not intimate that such a record is within the reach of all. But I will cite this family as an offset to "A Mother's" "mess" of children. On the other hand, I have known homes which are desolate for the lack of children, and other homes where there is only one, to which one the parents are slaves and are spoiling with the most determined assiduity. The primary end and object of the whole creation is that children may be born and reared into good men and women—educated in a much better than merely intellectual sense, and graduated into Heaven. Anything which stands in the way of the attainment of this end is mischievous. Among all the menaces to our civilization and to our experiment in government, there is none so formidable as the sterility of American women. Among all the blessings that may fall to the lot of woman, next to the gift of a loved and lovable husband, the greatest is that she may become a "joyful mother of children."

Mrs. S. E. McGee, Kansas, writes: My lot has fallen in a school district where we have a good house and where the parents take enough interest in the pupils to see that they are comfortable while in the school room. The teacher is paid good wages, so that we can get one who has a reputation as a teacher. We have found by experience that the brightest student is not always the best in conveying knowledge to the pupil. Nearly all school houses in this part of the country are situated so that the pupils study with their faces east or west, which I have often thought was a mistake. We older people can remember when we used to sing: "The top of every map is north, the bottom south we make; the right side east, the left side west, preventing all mistakes." I have heard more than one express themselves as getting the impression that the west was north while they studied their geography with their face to the west. I think a good way yet to study geography is by singing as we used to. I read in one of the June numbers of the P. F. the experience of a woman who had always forbidden her children to come home and tell school stories. I have known parents who forbade their children to repeat school stories and I always thought it unjust. The woman I refer to, was led to change her mind by a remark her little boy's schoolmate made to her in regard to something that occurred at school. It is natural for the child to want sympathy, and who is there for them to go to to relieve their little hearts as good as the parent? Of course there should be discretion on the part of the latter. We must not think that our children are faultless, and lay all the blame on the teacher or other pupils. But by gentle reproof, and sympathy when needed, we can gain the child's confidence, which is of inestimable value to both parties. I think there is not enough attention paid to the pronunciation of syllables in spelling now. I think the good old spelling schools ought to be revived again. We used to have spellings after night and have contest in arithmetic before recess and spell after recess. Some parents are in a hurry to send their children to high school. The teachers in the Norman School in our town said those who attended Normal from the country schools had a more thorough education than those from the high school. I would like to say to any teacher who may read this, "Do not discourage the dull pupil," for "The race is not to the swift nor the battle to the strong" always. When we send our children to college, let it be a college where a Christian influence is thrown around them. For the Christian makes the best citizen always.

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Our Experience Pool.

"Experience is the best teacher." This Experience Pool will be a weekly Farmer's Institute for the exchange of practical ideas by practical farmers. We want them to give their experience, as well as suggest topics for future discussion. We publish this department so that all may have the benefit of the tangible, practical experience of others on every subject pertaining to the farm. Let all contribute. A cash prize of 50 cents will be paid for the best contribution, 25 cents for each other contribution published. The only condition is that you are a yearly subscriber to the paper. Write on one side of paper only. On upper left hand corner mark plainly the number of the topic you write about. Articles on all topics must be in our hands at least three weeks before publication. Do not forget to suggest ahead topics for discussion. Address all communications to THE EDITOR, Box 385, Raleigh N. C.

Topic No. 557, Jan. 31.—*For Ladies Only.—Tell us How You Succeed With Window Plants in Winter, What You Grow and How You Treat Them.*

Topic No. 558, Feb. 7. — *What Sort of a Brooder do You Use for Incubator Chicks?*

Topic No. 559, Feb. 14.—*How Are Farmers' Institutes Managed in Your Section, and in What Way do You Think They can be Improved and Made More Helpful to the Farmers?*

Topic No. 560, Feb. 21.—*Growing Tomatoes for the Canning Factory. What Variety Have You Found Best, and How do You Manage the Crop from Start to Finish?*

Topic No. 561, Feb. 28.—*Have You Adopted Any Systematic Method of Improving Your Seed Corn? If so, How and With What Success?*

Topic No. 562, March 7.—*Have You Raised Good Calves Without Milk? If so, How?*

Topic No. 563, March 14. — *What Varieties of Pears Have You Found Most Profitable, and How do You Cultivate and Pack for Market? Have Dwarf Trees Been Profitable?*

Topic No. 555. What is the Most Profitable Breed of Chickens for the General Farmer?

J. C Dickinson, Renrock, O.—Wife and I went to housekeeping a little over thirteen years ago with twelve hens and two roosters. They were a mixture of several breeds, for there were red, white, black, blue and speckled. But for egg production, we have never beat those mongrels but once, and that was when we had raised quite a bunch of S. C. B. Leghorns. We have two henhouses, and aimed to keep Leghorns in one and B. P. Rocks in the other. We thought the Leghorns would produce more eggs in Winter than the P. Rocks; which they did one Winter, when it was not very cold, but the next Winter being much colder and their house not being sufficiently warm, although lined with building paper, their combs froze and they did not do as well as the B. P. Rocks. They are too small for a profitable market fowl, so we discarded them. Now we have well bred B. P. Rocks, which are fair layers and a good market fowl from one and a half to eight pounds. They are a nice color, good form, and when fat, will bring from 1 to 2 cents per pound more than a bunch of all kinds. With the feed, care and attention usually given by the farmer, we think that they are all right. But if you don't like them, select some other distinct breed and keep but one and you will find money in your pocket by having done so.

H. D. Hathaway, Scipio, O.—The general farmer needs an all around breed for market, table and eggs. We believe no breed equals the Barred Plymouth Rocks in these particulars. They are easily confined, are first class layers and excellent mothers. Their eggs are generally fertile and will hatch better than those of the larger breeds, and the cockerels are not excelled for capons, a branch of poultry raising that should receive more attention. Leghorns lay more eggs, but the B. P. Rocks will make the most profit.

R. D. Myers, New Chester, Pa.—A farmer can make a success of almost any breed if he takes a fancy to it. The Buff and Barred Plymouth Rocks, Wyandottes, Brahmas and Leghorns are all good, and the farmer who wants to improve should write to the Secretary of Agriculture and get Farmers' Bulletins 51 and 141 and read them carefully.

S. A. Hindman, Fisher, Pa.—The best breed for the farmer is the one he likes best and will give the best care to. I find the Plymouth Rocks the most profitable, as they are easily confined and yet good foragers, quick growth, good size and good layers in Winter when the eggs bring good prices. The Leghorns are hard to confine and have not proven better layers than the Rocks.

Clarence Huffman, Charleston, Ill.—After trying a number of breeds we have come to the conclusion that the Plymouth Rocks are the best for the general farmer, and they are now the only kind we keep, and nearly all of our neighbors are doing the same thing.

W. L. Sims, Newton, Iowa.—We are raising the White Leghorns and can recommend them. Good layers, good foragers and needing little care except in Winter. Not so profitable as a market fowl, but they make it up in eggs, as they lay well in Winter when eggs are high. If a good sized breed is wanted, the White Plymouth Rocks will fill the bill. But for eggs the Leghorns are better.

J. D. S. Carpenter, Lawndale, N. C.—There are none that will equal the American breeds for all purposes, and I do not think that any of them will excel the Barred Plymouth Rocks. They are great foragers, hardy, good Winter layers, splendid mothers and will bring more money when you sell the old stock, and this is a point not to be overlooked. A pound or more on each hen you sell counts on the credit side.

S. J. Davis, Johnson, Vt.—After trying a number of breeds I am of the opinion that a cross of the Barred Plymouth Rock cock on White Wyandotte hens, which secures black chickens, with yellow legs and skin, make the best fowls for the farmer. The males make fine broilers and capons, and the pullets are astonishing layers of large brown eggs, and are not always wanting to sit, and their small combs adapt them to our climate.

W. W. Hickman, Tipton, Mo.—I have tried a great number of breeds, and out of the entire collection I prefer the Silver Laced Wyandottes. They are good Winter layers, good sitters, good mothers and good hustlers. Mature early, have small combs and do not freeze easily, and hence suit a cold climate.

Mrs. E. E. Rapp, Leesburg, Ind.—After 20 years experience with various breeds I have concluded that the Barred Plymouth Rocks are the most profitable for the general farmer. They are as good layers as any I have tried, except Leghorns. They are hardy, good foragers and always fat and keep fat on the least food. Always ready for the market and weigh something when you get them there.

J. F. Horton, Eden, N. Y.—We have two houses of Buff Leghorns, two of White Leghorns and two of mixed fowls. We formerly thought the mixed fowls did as well as the pure breeds, but last Winter we found that the Leghorns were more profitable. The Buffs did better than the White, and we now consider them the best laying fowls we have. Some of the pullets, hatched in an incubator last Spring, began to lay at four months old.

E. L. Gilham, Wanda, Ill.—Barred Plymouth Rocks are now generally conceded to be the best, and there are more of them raised than of any other breed. Any breed properly bred is better than any other breed neglected. Other farm stock have been bred up by careful selection, and fowls are no exception. The bull is half the herd, and the cock is half the flock. The B. P. Rocks lay about six-sevenths as many eggs as the Leghorns. They will give one-fifth of the eggs in Winter when the price is high, while the Leghorn will produce but one-seventh in Winter. The Rocks mature earlier than the large Asiatic breeds, lay more eggs and can be put on the market earlier. For profit give me pedigreed Barred Plymouth Rocks.

L. E. Kerr, Hurricane, Ark.—The Barred Plymouth Rocks are doubtless the best breed for general purposes. We have changed to others occasionally, but were always glad to get back to the Rocks. The worst change we ever made was to Leghorns. We kept them one year and that was enough. We always keep an account with our poultry, and this shows that the Plymouth Rocks are the best breed. Then they are not troublesome about getting where they are not wanted and are excellent table fowls.

Mrs. R. H. Brown, Lewiston, N. Y.—Plymouth Rocks are the best fowls for the farmer, but like everything else new blood must be introduced every year to insure success. They are healthy and stand cold well, thickly feathered, make good mothers with their easy and quiet disposition. They are of fine appearance when dressed for market, and the dark colored eggs sell better.

J. S. Wright, Weyers Cave, Va. — The Barred Plymouth Rocks are the most widely known and popular breed in America. They are one of the hardiest breeds, prolific layers when well cared for and have nice yellow legs and skin, making them fine table fowls. Therefore, I consider them the best breed the farmer can raise.

L. F. Kirkpatrick, Mooresburg, Tenn.—The Plymouth Rocks are my choice. They are fair, medium size, good layers and hence the practical fowl for the farm. They originated in a cross between the Black Java and the Dominique. They are hardy, mature early, good sitters and excellent mothers. The pullets begin to lay early. They are easily kept in quarters and are good foragers when allowed to roam.

Mrs. Grace E. Church, Townville, Pa.—Out of the 87 standard breeds of fowls in this country, the Plymouth Rocks rank first as a general purpose fowl. When bred to standare requirements the Barred Plymouth Rock is certainly a beautiful fowl. Too many pay little attention to mating for color, and many of them do not look as they should, the hens being very dark and the cocks very light. They are medium size and for the farmer and poultry market man cannot be surpassed. We raise several hundred broilers every year and could always sell many more than we have ever yet raised, while we know of some who raise the smaller breeds who have hard work to dispose of their chickens, often being obliged to keep them till late Fall, and then get no more for the full grown ones than we did for the broilers 10 to 12 weeks old.

Levi Zeigler, Denton, Md.—The most profitable breed for the farm is the White Leghorn. They do not take as much to feed as other breeds and make more profit with their eggs than any other. We have about 180 hens in different pens. The White Leghorns are now laying three times as many eggs as any other fowls we have, and we will breed these altogether.

James S. Frost, Lakemont, N. Y.—I think the general farmer gets more profit from eggs than in any other way. The sale of poultry is a secondary consideration. Then he needs a special purpose hen rather than a general purpose one. I have found the Leghorns better adapted to laying eggs under adverse circumstances than any other breed. If underfed and having a free range, they will get out and rustle for a living, while if overfed their nervous temperament prevents their laying on fat to the extent the heavier breeds do. The Brahmas lay well in Spring, but fail late in the season. I have no trouble with Leghorns flying over a 6-foot fence if one wing is kept clipped. The White Leghorn seems as good as the Brown.

W. R. English, Rome, Ky.—For general purposes the Plymouth Rock is the best breed on the farm. They are hardy, healthy, easily kept and good hustlers. They range over the whole place daily, and are the pictures of health. Never had one with the gapes. They are good average layers and the best of mothers, and their meat is hard to beat on the table. When they want to sit they go at it in earnest, and they have a penchant for all wanting to lay in the same nest, which makes it bad at sitting time. Once in a while one will steal a nest off in the hay loft, and in due time will come out with a big brood of chicks as a Christmas present.

J. F. Cass, Skagit, Wash.—In this mild climate of Western Washington, the Brown Leghorn is the best breed for general purposes. The best of rustlers and layers, nonsitters, while with some breeds the hens will be sitting half the time. We aim at egg production. Prices now are 38 to 40 cents per dozen. A few small flocks of the Barred Plymouth Rocks are found, but the majority of the fowls kept here are Brown Leghorns.

W. P. Rockwell, Rome, Pa.—I have settled on the White Wyandotte as the best breed for the following reasons: They are hardy, raising 90 to 100 per cent. of the hatch. They mature early. I do not think there is another breed that will produce a 2-pound broiler quicker than the Wyandotte. They begin laying as early as other breeds, Leghorns not excepted. They are more compact and plump and have more breast meat than Plymouth Rocks. They have yellow legs and skin, and being white the pin feathers do not disfigure them. They are good foragers, but stand confinement. They are good sitters, but are easily broken up when not wanted to sit. They are very tame and easily handled, and will lay nearly if not quite as many eggs as any other breed.

A. J. Paddick, Chauncey, Ill.—We think the Barred Plymouth Rocks we have are a good strain of layers, and the merits of the breed are yellow meat, easily cleaned, quick growth, small comb, yellow limbs, large brown eggs and best of all, they are easily fenced. We tried the Brown Leghorns. They lay well, but I had as soon set a hawk. They were always in mischief, scratching everywhere. We had a choice rooster and he picked the eyes out of one little pig and the navel cord from another, and went into the peach trees and picked the peaches when I was getting $1 per bushel for them. So he had to go. We do not like black chickens with their dark flesh.

Alburn, Morse, Granville Summit, Pa.—The Leghorn has proved to be the most profitable breed I have ever tried. I have tried several breeds and now am making the whole flock Brown Leghorns.

G. Camerer, R. R. 1, Madison, Ind.—We have settled on the Rose Comb Brown Leghorn as the best breed. They feather and mature quickly, are good foragers and great insect destroyers and are less subject to disease than others. They lay the whole year through except when moulting.

W. D. Latshaw, Carlisle, Ind. —I think the Barred Plymouth Rock the most profitable breed for the general farmer. [For the same reasons that have been given above by others.—Ed.] The past two seasons Poultry Success, of Des Moines, Iowa, offered prizes for the best six pullets that produced the most eggs during the month of January. The first prize in each case was won by six Barred Plymouth Rock pullets.

S. A. Shaw, Auburn, Me.—Where eggs and poultry are both taken into consideration the most profitable breed of fowls is the Plymouth Rock. My cockerels of this breed usually bring $1 at Thanksgiving time, and are in good demand in this market with the best families, some preferring a 6 to 8 pound chicken to a turkey. The pullets begin laying at 6 months and are as hardy as any breed we know. I assume that the farmer is going to give them reasonable care and proper food, for otherwise there is no profit in any breed. The Rocks will stand a reasonable amount of neglect as well as any breed and will pay for extra care. I have noticed that most general farmers have some specialty to which they give their best attention, and the general part of their farming is done at a loss. They should give attention to that which pays them best and cut losses short.

F. F. Frantz, Wehr, Pa.—After an experience of over 15 years I have found the Plymouth Rock and Brown Leghorn the most profitable breeds. I have kept both breeds during these years, and have made more money from poultry than from anything else on the farm, in proportion to the investment. Twenty-eight years ago when I started farming, I tried many breeds and finally settled down to these two. The hen that does not pay me for the care I give her is not the hen for me. I keep poultry mainly for the eggs and poultry at all seasons of the year. Hens must have comfortable quarters, plenty of exercise and food.

John Barrett, Col. X Roads, Pa.—I am a boy 16 years old. I have tried but two breeds of chickens, the Buff Leghorns and the Barred Plymouth Rocks. The Plymouth Rocks are the hardiest and lay the best. I sold over 35 dozen eggs from 5 hens last Summer. From my 5 hens I sold more eggs according to numbers than papa did from his 25 Brown Leghorns. I think the Barred Plymouth Rocks are the best breed for the farmer.

J. M. Glover, Oakspring, N. C.—Brown Leghorns and Indian Games crossed, are from my long experience, the best breeds, if eggs are desired, while I prefer Wyandottes and American Dominiques for the market. The cross mentioned makes the most industrious and thrifty chicken on the farm. They will scratch for their living and begin to lay eggs at from four to five months old, and will give eggs all the year through. But they should be marketed at two years old. One hen gives about 300 eggs a year, which sell at an average of 18 cents a dozen. They are the healthiest fowls on the farm. The Wyandottes and Dominiques dress best for the table, and are best flavored, and are good layers and breeders. These well grown will at any time bring 40 cents each.

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at point of contact with the hand or pocket. A solid gold case wears thin and weak and a cheap filled case wears shabby. A Jas. Boss Stiffened Gold Case is guaranteed to wear for 25 years. It is made of two layers of solid gold with a layer of stiffening metal between, all welded together in one solid sheet. The outside gold will last a quarter of a century and the stiffening metal will keep the case strong as long as you wear it. This is why thousands wear the
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Benjamin Ringwald, Madison, Ind.—The Barred Plymouth Rocks are the most profitable breed. We started in January, 1902, with 76 hens and 2 roosters, and kept an egg record daily. In January we got 263; February, 537; March, 1080; April, 1083; May, 861; June, 439; July, 409; (In July sold 43 hens) August, 237; September, 206; October, 237; November, 221. Total in 11 months, 5562 eggs. Hatched 273 chickens and sold 97. Have on hand 20 old hens, 57 young hens and 2 full blood roosters. The value of the eggs sold and the chickens, including the eggs set, was $106.65.

L. W. Clelland, Barracksville, W. Va.—I have had experience with many breeds of fowls, and in my opinion the Buff Plymouth Rocks stand at the head, unapproached by any breed from foreign lands. Those who looked on them at first as an experiment are now satisfied that their future is assured. They are healthy, vigorous and plump if given half a chance. They are always ready for the market, whether as broilers, friers or roasters. Have clean yellow legs and skin and no white or black pin feathers. Their meat is juicy, rich and tender, and as to eggs they speak for themselves with yearly records of 225 eggs to the hen. Are fond of being petted and handled and are good sitters and mothers, and as to beauty, there are none prettier.

Frank Hathaway, Abington, Mass.—White Wyandottes and Barred Plymouth Rocks are the two most profitable breeds for the general farmer. The Wyandottes are smaller eaters, but as egg producers the advantage is slightly on the side of the Plymouth Rocks. We have sold Wyandotte roosters hatched in April for $1 in November. The chicks of both breeds are hardy and grow quickly. We have always tried to get a brown egged strain of each, as they sell best, and we never set any but brown eggs.

SUMMARY.

There is nothing, as usual, for the editor to say when the chicken folks turn out in force. We believe that the Plymouth Rocks have it by a large majority. One friend asks us if, after mature deliberation, we do not think that the expression we used some time since in regard to the poultry business, calling it "piddling work" was wrong, seeing that so many people are making a success of it, and ever so many millions of dollars are the earnings of the chickens. Well, in the aggregate, the poultry products do show up quite large and so also do the returns from other work that would be called "piddling." We have not the slightest objection to anyone making a business of poultry and making a success of it. But in our observation the poultry business as a specialty has sunk more money for its enthusiasts than any other specialty connected with farming. As a side issue in the work of the farm the keeping of poultry can doubtless be made to add sensibly to the farm income, and to a limited extent be a source of profit. We read occasionally wonderful accounts of great poultry ranches, and possibly some of them are a success. But we have observed that the young men who figure out on paper the great profits to be made in poultry as an exclusive business, have usually found, after a little experience in keeping poultry on food bought in the market, that the profit is mainly with the men who sold the feed, and they generally quit with more experience than cash. There are doubtless experienced men who have the knack and the capital to go into poultry on a large scale and make it pay, but, as a rule, it is the farmer with wide range and cheap feed, who can most profitably keep hens as a part of the live stock on the farm, and keep them as well as he would any other stock. And to the extent that such men can handle the poultry it may be made to pay. Nevertheless, this editor is perfectly willing that some one else shall undertake the care of the fowls. He votes for the breed that is too lazy to get over the garden fence and too big to get through.

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This Will Interest Many.
F. W. Parkhurst, the Boston publisher, says that if any one afflicted with rheumatism in any form, or neuralgia, will send their address to him, at 804-28 Winthrop Bldg., Boston, Mass., he will direct them to a perfect cure. He has nothing to sell or give; only tell you how he was cured after years of search for relief. Hundreds have tested it with success.

Our Barter Column.

Advertisements will be received for this column from our yearly subscribers only. Only advertisements of farms for sale, articles for exchange, help wanted, positions wanted, etc., will be received. Charge 1 cent per word for each insertion. No advertisements of less than 25 words or more than 10 agate lines will be admitted to the column. This column will appear each alternate week.

☞ **Special Notice.** The farms advertised in this column must be the farm of the advertiser, and not placed in his hands by another person for sale or exchange. No advertisements from Real Estate Agents will be accepted for this column; they must go in our regular advertising columns at regular rates.

Breed Weeder for sale cheap. Land too stony to use here. C. S. COLLINS, Bristol, N. H.

Fancy pedigreed Scotch Collie pups to exchange for other stock of equal value. C. H. BENNETT, Goodman, Va.

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80 Acres for sale, Lake Co., Cal. Adapted to alfalfa, grain, etc. Fine orchard; buildings; all fenced; 2 miles from town. A. C. WHEELER, Upper Lake, Cal.

Sale or Offers. Holstein bull, year old, dam sired by Ohio Experiment Station bull; young calves. Clark's Cutaway harrow wanted. H. N. MUSSER, R. 5, Wooster, Ohio.

For Sale. Farm of 125 acres, 5 miles south of Newark, Licking Co., Ohio. House and out buildings. Price, $50 per acre. R. BRUMBACK, Thornville, Ohio, R. R. No. 5.

Position Wanted, in Virginia or North Carolina preferred, by honest young man, as farm hand. Plenty of experience. Address, EMMIT J. PHILLIPS, Lancaster, Fairfield Co., Ohio.

Farmer Wanted. Before April, to work few acres and be generally useful in business way. Must be thorough and handy; $25 per month and board; chance to advance. I. J. WELLS, Nanuet, N.Y.

Wanted—a hand to work on dairy farm that understands and can do all kinds of farm work; wages, $20 per month and board; must have good reference. Address, Z. W. BRENNER, Box 167, Bryan, O.

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Wanted. An experienced man to rent farm of about 200 acres, on Bingamon Creek, near Grangeville; cash or shares. Good market for all products; good neighbors, school and churches. R. E. MASON, Fairmont, W. Va.

Thoroughbred Barred Rock and White Leghorn cockerels and new barrel churn, to exchange for gilt-edge pullets, or Mammoth Pekin Ducks, or Buff Cochin Bantams, or Belgian Hares, or offers. GEO. R. PROCTOR, Peoria, Ill., Station No. 4.

Having retired from the milling business, I have for sale feed, bone phosphate, shell and paint mills; grind fine and have immense capacity; suitable for farmers. Also a few cob crushers, belting, etc. Send for decription. J F. KUNSMAN, Lower Saucon, Pa.

Wanted. Position on dairy farm, by practical up-to-date man. Age, 28; married. First-class butter maker, thoroughly understands dairying and private creamery. Capable manager, but will start in any salaried position, or run furnished farm on shares. Terry man. Lock Box 37, Jamestown, Penna.

Wanted—by a reliable, sober man (wife and child), experienced in Western, Southern and Eastern truck and general farming, position as farm manager in Middle South, Maryland or Virginia prefered; or farm on shares. Good position in other sections considered. W. L. 1522 North Ave., Bridgeport, Conn.

Farm for Sale. In Western Tennessee, 144 acres; 120 cleared, balance in timber; between 40 and 50 acres bottom land, new house, good well of water at house, fine spring on farm for stock; healthy country; joins L. N. R. R., on public road, 3 miles from good market, handy to schools and churches; $1000 cash. J. A. JOHNSTON, Ansonville, Pa.

149 Acre Farm for sale. 70 acres rich meadow land; 65 acres second bottom river land in good state of cultivation; 14 acres in hardwood timber. Farm is level; free from stones; on main line R. R. at depot. Small 2-story house; large barn; large young orchard. Well of soft water, springs and streams on farm. On public road, 4½ miles from county seat. Churches, schools and excellent markets within reach. Price, $2,450. P. B. MEYER, Woodford, Caroline Co., Va.

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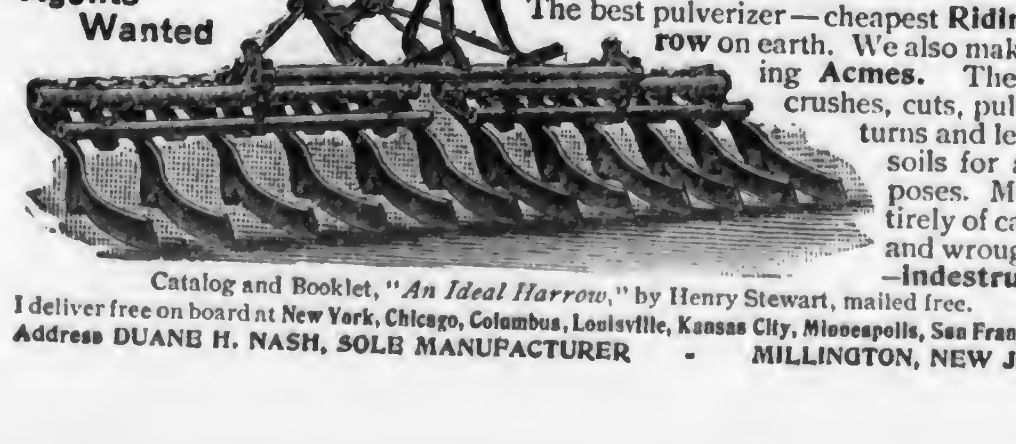

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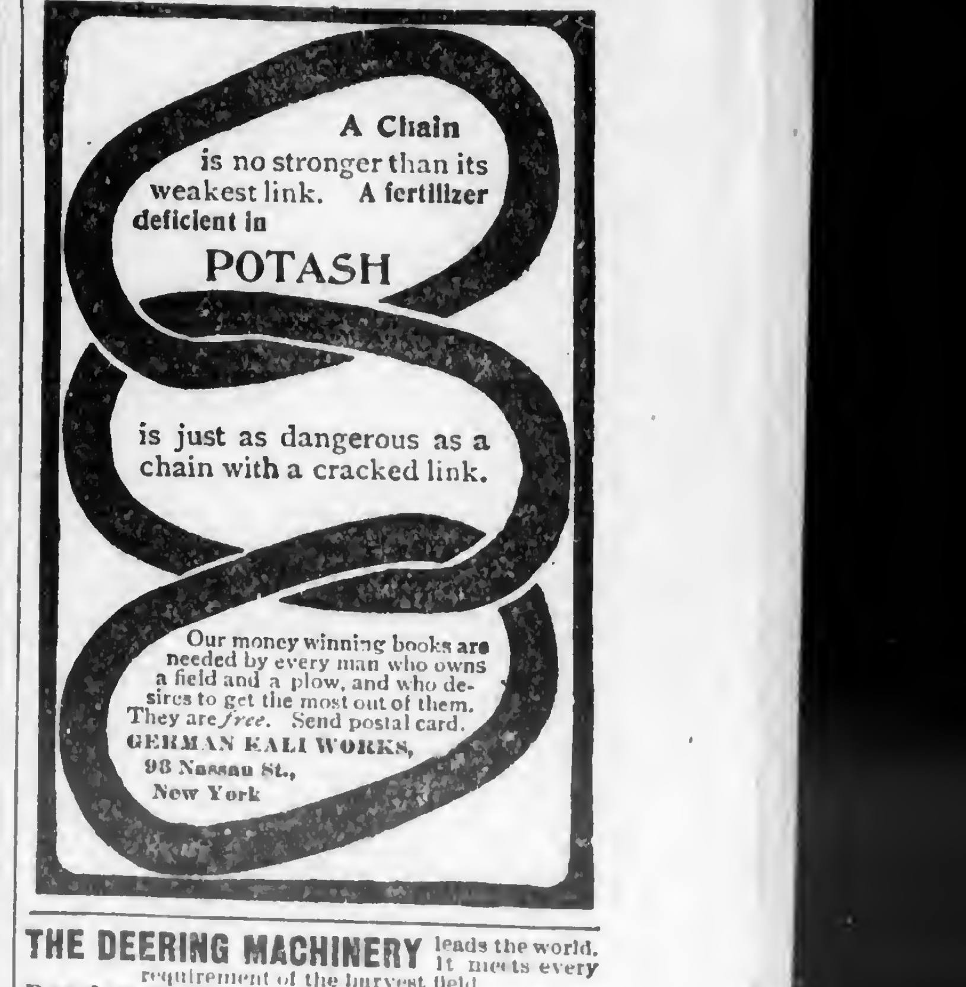

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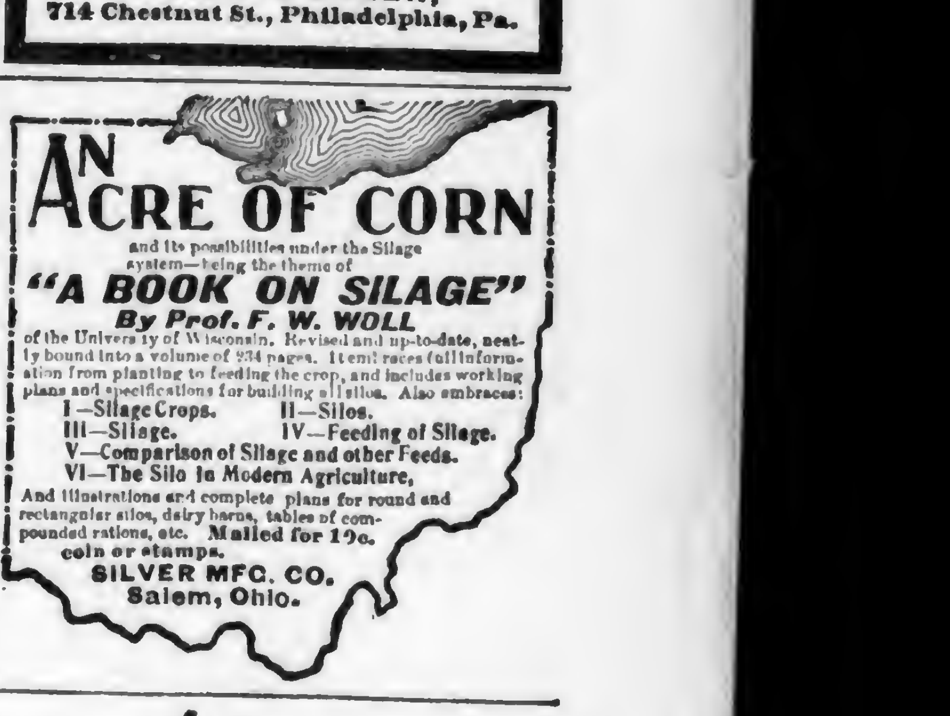

AN ACRE OF CORN and its possibilities under the Silage system—being the theme of "A BOOK ON SILAGE" By Prof. F. W. WOLL of the University of Wisconsin. [illegible] I—Silage Crops. II—Silos. III—Silage. IV—Feeding of Silage. V—Comparison of Silage and other Feeds. VI—The Silo in Modern Agriculture. [illegible] SILVER MFG. CO. Salem, Ohio.

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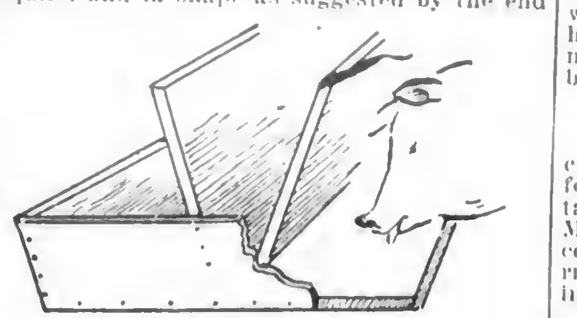
SHORT CUTS.

BY PRACTICAL FARMER SUBS.

All other trades have resorted to "Short Cuts." To be successful farmers must resort to them, too. In this column we will publish all actual labor saving short cuts made by the farmer on the farm and the housewife in the home. Write and tell us of any labor saving tool you have made, of any method of management or manner of using implements to save time, labor and money, or increase their efficiency. Even the smallest things may be useful and valuable. Hints and helps in the household are always welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Write on postal cards and make articles short. All errors will be corrected by the editor. Address all communications under this head to T. Greiner, La Salle, N. Y.

Buggy Thills Holder. — To hold the buggy thills up out of the way when in the carriage house, take a strip of board 1 inch by 2 inches, and make a square (one side being 3 feet long, the other 2 feet). Nail a little brace on each side or put on one iron brace. Raise the thills as high as they will go, slip the long end of square under the box until the short piece rests against the cross bar on thills. This will hold them and they cannot get knocked down or damaged. Is cheap, light and convenient.
DeKalb Junction, N. Y. H. N. POWELL.

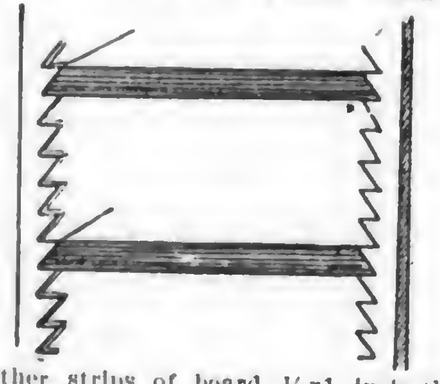
Economical Feed Trough for Hogs. —For feeding soaked corn or similar feed make a trough of such length as your needs require, and in shape as suggested by the end view in illustration. Make top part too high for hogs to get into, with an opening at bottom, and it makes a self feeder and also keeps the hogs off of their feed.
Parsons, Kan. C. D. LYND.



To Keep Shoes Tied.—I recently saw something, which, in these days of laced shoes, seemed worth remembering and passing on. Before putting the laces in the shoes rub them with bees wax and they will not come untied. This is quite an item in a family where there are several pairs of children's shoes to be kept tied.
Utica, O. MRS. J. A. MCFARLAND.

Ladies' Overshoes for Snow and Ice. —Fit paper snugly over the shoe to be worn, and cut pattern as much higher than the shoes as you like. Have seam front and back. Make of heavy black cloth. If lighter material is used quilt it in diamonds with silk thread, using a separate, soft, warm lining. Now fit it on the shoe and sew a cloth sole on substantially, and bind, then trim around with fur if you have it, fastening with hooks and substantial loops. Cut the soles from cast off sandals, cut off up the side one-half inch or so, fit these on tight and snug, and sew securely at upper edge, and you will have shoes that look and feel as comfortable as any in the market. If good material has been used they will last for years, to be slipped on for very cold weather, for snow and ice, and one will not need to change their warm house shoes before going to church. A lighter shoe may be made for house wear, omitting the rubber soles, and prove both comfortable and economical. Soles may be cut from the boys old felt top boots.
Dunreith, Ind. SARAH A. PLEAS.

Device for Shelf in Cupboard or Book Case.—Take four pieces of board strips ½x1 inch thick as long as your cupboard is high inside. Saw out small steps 1 inch apart, as shown in cut. Nail one in each corner. Nail them so that the steps will face each other at the ends. Then take two other strips of board ½x1 inch thick. Make it as long and saw it bevel to fit it like a board and fit it in your cupboard or book case for a shelf. These shelves can be raised or lowered as desired to put things in. F. J. MCALLISTER.
Alliance, Pa.



Various Suggestions.—Crush the stems of pie plant and you will find the juice almost equal to lemon for taking out stains. Try it on your hands. When eggs are scarce and high in price use 1 rounded tablespoon of cornstarch in each pumpkin pie and leave out the egg. Or a heaping one of flour will answer. If the housekeeper dislikes mending stockings, try wearing heel protectors. One can buy them. We knit ours of carpet chain. Shape like stocking about the heel, allowing them to extend well under the instep, and we have but little trouble mending heels. Put "Brownie overalls" on the small boy and you have the knees protected also. Make scrap books for the little ones to paste pictures in by using the red, blue, purple, pink and green wrapping paper. Tie with bright colors of B. B. ribbon and you have something for gifts. The children can make pretty penwipers for their friends by cutting the bright colored roses, lilies, etc., from seed books. Cut a piece of cardboard the same size, place between them several leaves of tissue paper, or pieces of worsted or silk. Tie with 2 or 3 bright colors of B. B. ribbon by punching a hole in the edge or stem. RACHEL ARMITAGE.
Damascus, O.

Flood Gate.—Our neighbor has the best flood gate I ever saw. It is made about as follows: On each side of the ditch is set a heavy post; they are set quite deep and braced well. Near the top of each post is bored a hole to admit a 2½-inch pipe, on which the gate is to hang. The gate contains 2 cross pieces of 6-inch boards running horizontally. To them are nailed 6-inch boards perpendicularly, being placed so close as to hold little pigs. One of the cross pieces is nailed to the top of gate and one in the middle. In this way rubbish that comes swimming along, will not catch on the gate, but will slip off. The gate hangs on the iron pipe by means of 2-inch iron straps fastened to the gate and over the pipe. With flood gates it is also found to be a success by stretching a strong wire from post to post to keep them in place.
Eldridge, Ia. NIC. MEINHARDT.

Wagon Box.—Nearly every farmer has on his premises an old wagon box that has irons as good as new. Turn the box bottom side up and put on some kerosene oil a few times, and the nuts can be removed very easily. Then get 60 feet of pine, hemlock or basswood 1x5, 14 feet long; two pine or basswood boards 1¼x14, 14 feet long, matched and planed; 1x5 and side boards planed on both sides. For end boards take a 1x14, 8 feet long and one piece 1¼x3, 16 feet long for bottom bed pieces. A man that is handy with tools can make a box in a day and a half. The lumber will cost $2.50, and a new box will cost $10.00 to $12.00. Make the box in Winter and paint at leisure.
Spicewood, Pa. JAS. E. FISCHLER.

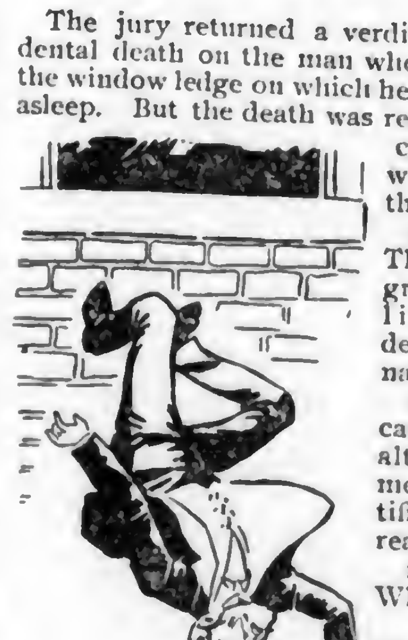
Chapped Hands.—A good ointment for chaps or cracks on the hands, is made as follows: Take 1 ounce each of fresh mutton tallow and vaseline and ½ ounce beeswax. Melt together with gentle heat and stir until cold. After washing and drying the hands, rub thoroughly with the ointment before going to work, and again at night.

Cracks on Cows' Teats.—Take equal parts of slacked lime and linseed oil and mix in a tin cup. Rub on the cows teats after milking. This is very healing and will cure a bad case in a short time.
Uncasville, Conn. MRS. E. N. MOORE.

Dish of Noodles. — Sift out ironstone cup of flour, add ¼ teaspoon salt, 3 eggs—don't beat them—stir with knife till absorbed. Knead with hand lightly 20 minutes. Roll thin as a ten-cent piece, cut in 3 parts, dry 3 hours. Lay each on top, cut in thin strips, separate loosely, leave to dry. Next day, drop into generous supply of salted boiling water, stir slightly. Boil rapidly 10 minutes, no more. Much boiling makes them hard. Turn into colander, pour cold water over, shake, drain, place noodles in baking dish, add cupful grated cheese, cupful sweet cream, dash paprika. Sprinkle small bits of butter on top, bake 15 minutes and brown golden color. Will take the place of meat.
Wadlington, Cal. E. H. KEOHAN.

ACCIDENTAL ?

The jury returned a verdict of accidental death on the man who fell from the window ledge on which he had fallen asleep. But the death was really due to carelessness which made the accident possible. There are a great many lives suddenly terminated as a result of carelessness, although the medical certificate may read "heart failure." When a man takes chances with his stomach and neglects the warning symptoms of disease, he is carelessly inviting calamity.



Dr. Pierce's Golden Medical Discovery cures diseases of the stomach and other organs of digestion and nutrition. It enables the perfect digestion and assimilation of food, which makes strength. It stimulates the liver, cures biliousness, and removes bilious impurities from the blood.

"I had been troubled with a pain in lower part of my stomach for three years, so severe I thought it would kill me in time," writes Mr. Aaron Van Dam, of (Kensington) 2549 119th St., Chicago, Ill. "I could hardly work; it felt like a big weight hanging on me and got so bad that I had to take medicine. I used Stomach Bitters for a time, but it did no good so I wrote to Dr. R. V. Pierce for advice, which he gave me immediately. I followed his directions; used two bottles of his medicine and was cured. I had a torpid liver which was troubling me instead of cramps (as I thought), so Dr. Pierce told me. I have pleasure in living now; have gained in weight 15 pounds since then."

Dr. Pierce's Pleasant Pellets cure constipation. They do not beget the pill habit.

CATARRHAL FEVER.

THIS is a disease characterized by inflammation of the respiratory mucous membranes. It is most common in spring and fall but may occur at any season of the year.

Causes.—The causes of catarrhal fever are sudden changes of temperature, exposure to wet, inhalation of poisonous gases, contagion. The disease is most frequent when the animal sheds its coat in the spring or fall.

Symptoms.—The animal will appear listless with drooping of the ears. The extremities are alternately hot and cold, the hair will stand on end; cough with discharge from the nostrils and redness of mucous membrane of the nose, and dry mouth are prominent symptoms. The bowels are constipated and the urine is scanty and is of high color. In some cases inflammation extends to the bronchi or even to the lungs.

Treatment. — Give animal good surroundings, allow him all the water he will drink. Dissolve in the drinking water a half ounce of saltpetre twice a day for two or three days, then diminish the dose to half the quantity. Feed easily digested, laxative food such as bran, oats and grass in season. If there is much exhaustion give two dram doses of quinine three times a day. If the appetite is much impaired dram doses of tincture of nux vomica with half ounce doses of tincture of quassie should be given three times a day.

To allay irritation of the mucous membrane and cough, a dram of muriate of ammonia with two drams of solid extract of licorice should be given three or four times a day. Inhalations of steam give excellent results.

Along with this treatment the general condition of the animal's system should not be overlooked. Give that most powerful tonic, Dr. Hess' Stock Food. It is both a nutritive and a curative—gives the correct balance of nutrition to all other foods and tones the vital organs and the blood, so the system is able to throw off the disease quickly. If the animal should require special attention or prescription, in the package of Dr. Hess' Stock Food you will find a little yellow card entitling you to the free prescription and advice from Dr. Hess.

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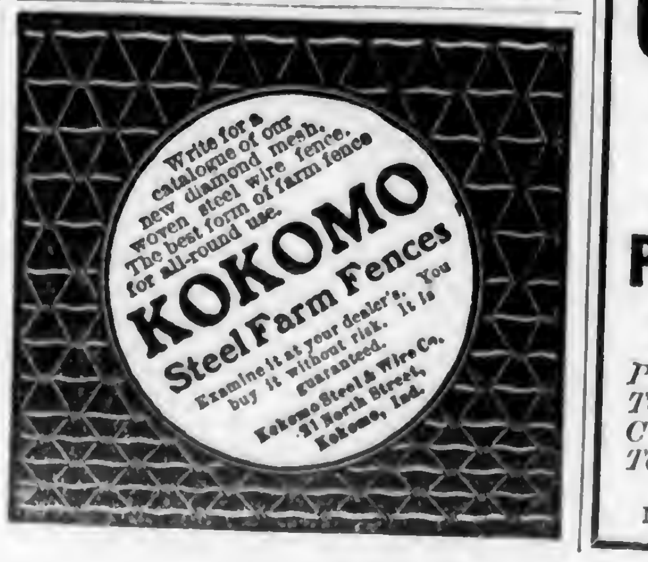

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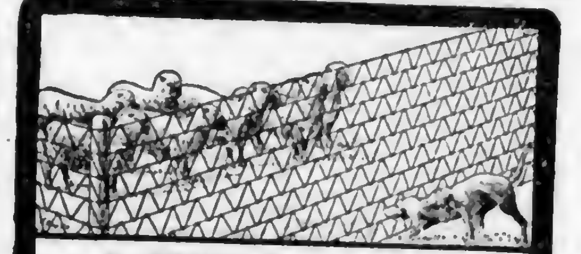

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Mistakes, Failures and Successes.

In this department we publish the Mistakes, Failures and Successes of our subscribers. They are equaly instructive and necessary, pointing the way to success. Subscribers are cordially invited to send accounts of efforts they have made which resulted in failure, as well as those which proved successful. Give in a few words your experience of anything connected with farm or household work. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Only helpful communications of value to P. F. readers will be accepted. The head of the column will be considered the position of honor each week. Send all communications to Geo. T Pettit, Oneida, Kan.

Pumpkins for Hogs.—When beginning to feed hogs in the Fall there is nothing better than pumpkins to keep them in a healthy condition. I have raised a few in the corn every year, but they did not amount to very much, so the past season I fertilized a little over an acre of ground with farmyard manure, marked it with an ordinary 4-foot corn marker and planted pumpkin seed in every other row and every other hill in the row, thus making the hills 8 feet apart each way. I cultivated them 3 times, used Paris green mixed with plaster for the bugs, and as a result harvested 7 double box loads of pumpkins. I fed them to sows and fattening hogs and could see a marked improvement in the condition of the hogs. I shall raise more next year and would advise P. F. readers to try them. In this vicinity there have not been many pumpkins raised on account of bugs, so we have hosts of heretofore unsuspected friends while our great pile of golden pumpkins remains in sight and we found our place well decorated the morning after Hallowe'en. O. H. KELLOGG.
Parkville, Mich.

Have a Refrigerator.—Everybody who has an ice house and ice should have a refrigerator. This is the first season we have used one, but we would not part with it now for almost any price. Before we had it we had to go to the cellar and "dugout" which are 50 feet apart, before meals to fetch edibles, and after, to take them away. Now we have a capacious refrigerator one side of the table, in which are kept pies, bread, meat, milk, butter, etc. This saves an enormous number of steps during the Summer. The refrigerator is as good as new, although it only cost us $6.50 (original cost $35), as we bought it out of the season. This is the time of year to buy them cheap. C. R. BASHORE.
Bethel, Pa.

Uses of Persimmons.—They are excellent dried. The seeds should be removed and the fruit spread in single layers in the sun. It should then be packed in boxes lined with wax paper, sprinkling powdered sugar between the layers. To those who like the persimmon taste they are quite as palatable as dates or figs. They are very economical, requiring only the sugar to be purchased for their preparation. Persimmons are also excellent with the seeds removed and the cavities filled with nuts or bonbons, in the same way that dates are sometimes used. The fruit for both uses should be gathered from the trees to prevent mashing.
Marietta, Ga. WM. LEA.

Raising Cabbage.—I would like to tell the ladies of the P. F. family how I made some money raising cabbage. I had 8 rows each 30 yards long. Planted the seed in hills and thinned when 4 inches high. Gave shallow, level cultivation with a one-horse cultivator. I sold $15 worth of cabbage besides putting up a nice lot for Winter. The variety was Maule's Surehead.
Batson, Ark. MRS. P. A. HESS.

Farming a Business.—Farming is a business, and the man who would make a real success of it nowadays must be a good business man: a good business manager. Besides the buying and selling, and the employment of labor, there are the planting, cultivating and harvesting of crops: the feeding and care of livestock: the use of machinery and a hundred other important things that require intelligence, skill and ability of a high order. There are a thousand things to be looked after to make the farm do its best. Taking everything into consideration the wonder is that there are not more failures on the farm than there are. No business in the city would long stand under the easy going management of the average farmer. S. R. HAWK.
Lawson, Tenn.

Nice Way to Bake Apples.—I would like to tell the sisters of the P. F. about the way we like our apples baked. Take ripe, sound apples of even size and wash. With an apple corer (jack knife will do) remove the core from the whole apples, thus leaving a round hole through the apple. Arrange the apples in a granite pan, blossom ends down. Fill the holes in the centre of the apples with sugar and if very tart sprinkle a spoonful or two in bottom of pan. Now pour hot water in the pan till it comes about half way up on the apples. Put in the oven and bake until half done, then turn each apple over and finish baking, being careful not to burn or scorch them. Once baked in this way you will never care for them baked with cores, stems and all. MRS. F. L. FEATHERSTON.
Cambridge, Idaho.

My Fall Garden.—I was very much interested as well as pleased with my late Fall garden the past season, it coming on after my earlier garden. Very few of the farmers attempt more than one crop of anything in their gardens (except weeds), not even getting more than one crop of early peas, lettuce or 6-weeks beans. This is a great waste of valuable garden space. I had 3 crops on my early pea ground, 2 of peas and 1 of cucumbers. The last named were a little late, the frost catching them, but my wife got a good many pickles from them, and as the early crop fell a prey to borers, these came in good play. The potato patch was planted to corn, zigzag, but the frost October 9th got it. However, the fodder was far enough along to do the cows all right. The first string beans were pulled when ripe and the ground re-planted with more early beans. Some planted July 15th ripened before the frost came. We got 2 crops off of all except the sweet corn ground and tomato ground, while the early pea and early bean ground brought 3 crops as stated above. This would not pay without plenty of manure, as it is too hard on the soil.
Waldo, W. Va. S. A. DYKE.

Permanent Water Gate.—Having made a failure for a number of years in building water gates and abutments to stand across a creek in which the water rises quite high during the Spring freshets, I finally hit upon the following plan, which has stood the test of the floods without being carried away. I built cribs 6 to 8 feet square, using logs from 8 to 12 inches in diameter. When cribs are half filled with cobblestone I put planks or strong poles across and fill up with stone. On the up-stream side of crib wire top log to one below the plank or poles. Also hang swing gate with heavy wire fastened back to bottom of crib or a post set deep in the ground; also wire corners of cribs. Water has gone over these cribs and they have remained intact. F. J. WIGGINS.
Sandusky, Ohio.

Trees for Shade and Ornament.—Few people, as it seems, are aware of the fact that it is more ornamental to have the trees right where you want them around about the house and yard than to arrange them in rows systematically, and since these trees are often as cheap as you could desire them to be, plant more of them than you think you will want, and later or after they grow up, remove any that are where they are not needed. This will be cheaper and better for those who are able to have nice things about them, than not to plant enough. Of course, if you know exactly where you will want the trees to stand, you can plant them in the right places and only what you want. If there is a certain view that you would have unobstructed, beware and do not get an ornamental tree in the way, for it often happens that such a tree spoiling an important view will do more harm than good. These facts have been learned "by the bark," from the book of nature and from close observation. W. F. GRABS.
King, N. C.

How we Raise Tomatoes. — Three years ago I obtained some tomato seed from the East, planted them in the wash from a creek and they grew and bore very well; but they all blighted, every tomato having a black spot on it. The next year I obtained 20 varieties from the East, planted them along the same creek and waited. They made a wonderful growth and an immense crop, but they all blighted more or less, except the Ponderosa variety, which was entirely free of blight, so I saved some seed from them. Last January I planted the seeds under glass, and set the plants out on the 24th of March. There were 300 plants. The tomatoes began to mature by the middle of August, and by the middle of November I had marketed over 12 tons. None of them were blighted and they brought me the neat sum of $360. LUCIAN BEAL.
Santa Barbara, Cal.

Portable Wardrobe.—We were scarce of wardrobe room to put ironed clothes in. So my husband made me a movable wardrobe which I find so handy that I will have more made. He took two boards 6 feet long and 10 inches wide, dressed on both sides. Using these for sides he put in six shelves 10x30 inches in size. The bottom is cut with a slope so it will fit snug to the wall. A fancy curtain to harmonize with furnishings of room and some fancy vases to set on top shelf, and you have an ornament for bed room and a nice place in which to keep pillow slips, sheets, towels, etc. As the wall or partition of room forms the back, it is easily moved and can be taken from one side of room to another. A chest of shelves in the boy's room will be very handy, as he can keep his boxes of collars, handkerchiefs, etc., where he can find them, and his shoes on the floor beneath where they will be out of sight behind the curtain. A strong shelf fastened to the wall of the bed room with plenty of shelf hooks underneath will give a nice place to hang garments that are not folded flat. They are out of sight and out of dust, and pretty curtains look better than clothing hung up promiscuously. MRS. S. W. BURLINGAME.
Sharon, O.

Dysentery in Calves.—We have had a great many calves sick with this disease and have lost a few. After trying nearly every other remedy we at last used peppermint and laudanum with perfect success. As soon as you see that the calf is sick take half teaspoonful of peppermint with a very little sugar and 3 tablespoonfuls warm water, give this amount 4 or 5 times a day. If the patient seems to be in pain put 8 drops laudanum with the peppermint, but do not give the laudanum more than twice during the day. Keep them clean and warm and they can be saved, as I know from experience.
Tully, N. Y. MRS. GEORGE CLARK.

Care for the Broody Hens.—It is a mistake not to give broody hens good care. Good feed and care when breaking them up will be well paid for when they get to laying. I have but little trouble in breaking up the broody hens; have a pen for spare males, with a good sized grass run. Each night when a hen shows signs of being broody she is removed to this pen. There are no nests or anything to encourage her to sit, and the male will usually disturb her if she sits on the floor. This is a good and humane way. I believe if the hen is not permitted to sit the first night she is a great deal easier to break up. Simply putting a hen in another pen will often break her up.
Kennebunkport, Me. E. T. PERKINS.

TABLE TALK OVER THE COFFEE.

The talk that evening began with the fad of the "Vegetarians" and their beliefs. It soon developed that the beautiful Miss Schuyler thought herself a "Vegetarian." "But," said Dr. Smith, "what do you eat?" "All kinds of vegetables and fruit," said she, "then I drink milk, have eggs for breakfast, besides at other meals I eat butter, pudding, cheese and cake, and tell every one they ought to do as I do, I feel so much better." The doctor looked astonished. "And you call that vegetarian? My dear young woman don't you know that butter, eggs and milk are *animal* foods? Then, too, it is a mistake to urge others to follow you. What is good for *you* may not be good for others. The Esquimo of the Arctic regions couldn't support life on a vegetable diet. Some animal food is necessary to keep heat in his body. On the other hand, besides the individual peculiarities and the climate, the conditions under which each person lives, would make it a mistake for you to recommend to everybody to follow your example." "At the same time," continued the doctor, "I have come to the conclusion that fully one-half of the chronic complaints which embitter life are due to stomach disorders which could just as well be avoided." "Now, Dr. Smith," interrupted Miss Schuyler, "I know you're going to tell us all just what to do and that when our stomach begins to trouble us and we have dyspepsia or what not, we are all to march in line, one after the other, into your office and have our stomach pumped out. No thank you, I tried that when I had dyspepsia, heart palpitations and dizzy spells so bad I thought I'd go mad, and then when I struck the pump treatment I thought I'd go madder! But fortunately just about that time I saw something in the paper which made me stop and think. I said, if hundreds of others can be cured by such simple treatment as taking Dr. Pierce's Golden Medical Discovery three times a day, I think I'll try. I did try, and in two months I was sound and well again—without those horrid stomach pumps, and then best of all, I wrote to Dr. R. V. Pierce, at Buffalo, N. Y., and asked his advice in my case, and he told me how to care for myself, how to exercise, diet, etc., and that didn't cost me a cent. Then I bought his book, the 'Common Sense Medical Adviser,' and now I know just exactly how to live to be a hundred in the shade."

"I can't dispute your statement, for it is undoubtedly true," said the doctor. "I have seen many cases in my practice of dyspepsia and other diseases of the stomach cured by that 'Discovery' of Dr. Pierce. It seems to assist in the digestion and assimilation of the food in the stomach, and not only that but it builds up the general health by enriching the blood and stimulating the liver into healthy action. Nervous feelings of despondency and the blues are done away with because the nerves are fed on rich pure blood and they no longer cry out for their proper food. No man or woman can be strong or feel happy who is suffering from indigestion, because when the stomach is diseased there's a diminution of the red corpuscles of the blood—this is why one don't sleep well, is languid, nervous and irritable."

The World's Dispensary Medical Association, of Buffalo, N. Y., the proprietors and manufacturers of Dr. Pierce's Golden Medical Discovery, are willing to

Forfeit $3,000

If they cannot show the original signature of the individuals who volunteer the testimonials below, and of the writers of every testimonial among the thousands which they are constantly publishing, thus proving their genuineness.

"Words cannot express what I suffered for three years from the effects of a torpid liver," writes Jas. E. Hawkins, Esq., President Order of Golden Circle, No. 41, of America, Box 1038, St. Louis, Mo. "Had I but known of your 'Golden Medical Discovery' sooner what misery I might have been spared. I was bilious, tongue was coated, appetite poor, and I had frequent distressing pains in the side and under shoulder-blades, but within a week after I commenced Dr. Pierce's Golden Medical Discovery there was a marked change for the better, so I kept on using it, three times a day, for over a month, with an occasional dose of Dr. Pierce's Pleasant Pellets to regulate the bowels, and the results were all and more than I could wish. My appetite is splendid—I feel ten years younger, and am entirely free from pain of any kind. Your 'Golden Medical Discovery' is certainly all that its name implies, and I gratefully endorse it."

Mrs. Alice Everly, of Creedville, Ohio, says: "Sometime ago I wrote you in regard my case, asking your advice, also what I needed in the medicine line. The advice came promptly and after following your directions I find myself entirely relieved of any distressing symptoms of my old troubles, and feel I am entirely cured. I had liver complaint and indigestion of the bowels. Took eight bottles of Dr. Pierce's Golden Medical Discovery, also three vials of Dr. Pierce's Pleasant Pellets. Your remedies have proven very satisfactory in my case, and I am delighted to be my old self once more. I thank you for your good and valuable advice, which was so promptly given. My husband is taking the 'Golden Medical Discovery,' and also feels that it is doing him good. One thing we are very positive of, is that it will give a wholesome appetite when all else fails."

SEND to Dr. R. V. PIERCE, Buffalo, N. Y., for a FREE copy of the "People's Common Sense Medical Adviser." For paper-covered copy enclose 21 one-cent stamps to cover mailing only. Cloth-bound, 31 stamps.

Postal Card Correspondence.

This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

Situated 4 miles north of Pana, Ill. Country mostly level, land very productive; sells from $85 to $125 per acre. Corn crop good, sells at 35c.; wheat, very little raised, 60c.; oats, 25c.; potatoes, 40 to 50c. per bu.; butter, 20c. per lb.; eggs, 23c. per doz.; chickens, 8 to 9c. per lb., live; hay, $10 per ton. Rent here is high, from two-fifths for grain to one-half of the hay, to one-half of all crops, and some landlords ask house rent besides. E. M. VINCENT.

Pana, Ill., Jan. 5, 1903.

Located in Butler Co., O., 8 miles from Hamilton, the county seat. Have had a very wet Fall, no Fall plowing done. This is a farming country, and, as a rule, very prosperous. Prices good and crops to suit the demand: Wheat, 80c.; rye, 60c.; oats, 38c., per bu.; potatoes, $1.80 per bbl.; hay, timothy, $16; clover, $12, per ton; eggs, 30c. per doz.; butter, 30c.; beef, dressed, 8c.; pork, 8c., per lb. Land, $40 to $100 per acre. J. KLEINFELDER.

Hamilton, O., Jan. 6, 1903.

The weather has been quite cool for the past few days; ground has frozen some. The principal crops raised are corn, oats wheat and potatoes, etc. Fruit scarce. Prices: Corn, 45c.; oats, 32c.; wheat, 73c.; potatoes, 50c., per bu.; chickens, 9c.; ducks, 6c.; turkeys, 12c.; butter, 20c., per lb.; eggs, 23c. per doz.; horses, $50 to $300; milch cows, $30 to $45, each. Land well improved; $40 to $115 per acre. We have a telephone, also Rural Delivery. E. K. WELLMER.

Wooster, Ohio, Jan. 7, 1903.

As I have had a good many inquiries about this part of the country I will write a description of it. This is the best country I know of for a man with small means to get a good home. I came from Michigan two years ago. We have one of the best countries in the South, but we want some Northern farmers to develop it. Most all farm products and fruit do well; we do not have any more droughts than any place, and can get along better on account of the long growing season and short Winters. We have good schools and churches. The people are very friendly and hospitable; they like to see Northern people come in. The country is generally level; no rock, no swamps nor waste land. The soil is a gray clay loam with clay subsoil. We have good well and spring water. The timber is principally oak and hickory; yellow pine mixed in some localities. Some prairie land. Our county (Drew) has three railroads and a survey for another. Very good market for all produce. Good wages for labor and labor is scarce. Land can be bought for $2.50 to $5 per acre, and some on easy terms; this price includes farms with some improvements on, from 30 to 60 acres under cultivation. It does not get extremely hot or cold; the highest temperature for last season was 104 degrees in the shade, and it hardly ever gets below 16 degrees above zero in Winter. The country is as healthful as any country. We have some mud in Winter, but we cannot expect everything to be good in one place. The farmers are not up to date on farming, but they make a good living and that is about all they care for, but a man that cares for more can make it. The rainfall for this year is 56 inches. Anyone that wishes to get large tracts of timbered land to work into farms can get some few tracts of 1,000 acres at $2.50 per acre, with good, valuable timber on them. J. G. TAFT.

Scipio, Ark., Jan. 2, 1903.

Located in Northern Missouri, on K. & W. and Wabash R. Rs. A new railroad being built through the western part of our county at present. A great deal of corn to gather yet. Rains and snow this Fall have put us behind in all farm work. Farm hands scarce. Wages, $1.25 and board per day; corn, 35c.; wheat, 60c.; oats, 20 to 25c.; potatoes, 35c. per bu.; eggs, 20c. per doz.; butter, 15 to 16c.; turkeys, 14c. per lb., in local market. All poultry high. Some land changing hands at from $12.50 to $42.50 per acre, according to quality. J. F. BOTTS.

Glenwood, Mo., Jan. 3, 1903.

Forty miles southeast of Indianapolis. Good roads, good schools, free rural delivery of mail, good telephones. Prosperous times, and land and farm products high. Land, $60 to $125 per acre; horses, $25 to $150 each; cattle, 4c. per lb.; cows, $25 to $50 each; fat hogs, $6 per cwt.; no sheep; turkeys, 10c.; hens, 9c.; butter, 15c. per lb.; eggs, 22c. per doz.; wheat, 72c.; corn, 40c. per bu. Growing wheat good. Clover seed, $4.50 to $5.50 per bu. Nice Winter weather now; 3 inches of snow; not very cold; very wet all Fall. Much corn still in the field. It is all down and damaged. Fodder shredding delayed. Stock in good condition. Fruit scarce past season. Health good and people contented generally. D. O. ALTER.

Rushville, Ind., Jan. 5, 1903.

We are enjoying life in the Piedmont section of South Carolina, 6 miles northeast of the city of Spartanburg. The principal crops are cotton, corn, wheat and oats. We have had a very mild Fall. Small grain is looking fine for time of year. Prices: Cotton, 8c. per lb.; corn, 75c.; wheat, $1; oats, 50 to 60c. per bu.; horses and mules, from $100 to $150; cows, $30 to $45 each; hogs, 7½c. per lb.; eggs, 22 to 25c. per doz.; chickens, frying, 15 to 25c.; hens, 30 to 40c. each; butter, 25c. per lb. I am a subscriber to the P. F. and wish it great success in the new year. A. E. BRYANT.

Spartanburg, S. C., Jan. 3, 1903.

Copperfield, Orange Co., Vt., is located 10 miles from Chelsea, the county seat. A mining town of considerable importance. The copper mines, of which Westinghouse (the great millionaire) is the principal owner, are in full blast, hiring all the help they can. This makes a good market for farm products, wood especially, which is in great demand. Farmers are very busy cutting and drawing. Help is scarce. Good sleighing; roads well kept by use of snow rollers. Prices: Corn and meal, $1.40; bran, $1.15 per cwt.; oats, 50c. per bu.; wood, 4-foot, dry, $4; green, $3; fine dry wood, 16-inch, $5.50 per cord; butter, 25 to 28c. per lb.; eggs, 30c. per doz.; potatoes, 60c. per bu. GEO. A. BUSHNELL.

Copperfield, Vt., Jan. 5, 1903.

WILLIAMS' SHAVING SOAP

The result of half a century's experience. Does all that a perfect shaving soap should do—softens the beard—allays all irritation—makes shaving a luxury.

Williams' Soaps sold everywhere.

FREE—A Trial Tablet on receipt of 2c stamp to pay postage.

THE J. B. WILLIAMS CO., Glastonbury, Conn., U. S. A.

Located in Scott Co., Iowa, 10 miles from Davenport, the county seat, one mile from the grand old "Father of Waters." The past season has been an unusually wet one. Crops were greatly damaged, especially small grain. Owing to rains and early frost, corn on many farms failed to mature, hence a great deal of soft corn in cribs and much in fields yet unhusked. Price of land from $50 to $100 per acre; corn, 35c.; oats, 40c.; wheat, 60c.; potatoes, short crop, 50c. per bu.; hay, $10 per ton; butter, dairy, 25c. per lb.; eggs, fresh, 23c. per doz.; hogs, $6.20 per cwt.; turkeys, live weight, 13c.; chickens, young, 10c.; old, 8c.; ducks, 5c.; geese, 6c. per lb. Weather very cold; thermometer, zero. M. R. WAGGONER.

Blue Grass, Ia., Jan. 5, 1903.

Located in Custer Co., near Montana and Wyoming line. Principal industries are raising cattle, horses, and sheep on the range. Grasshoppers and overstocking bring the range and stock into Winter in poor condition. Dry Summer; fine Fall; Winter since Dec. 1, with three to four inches of snow. Heavy loss to stock on the range inevitable if present weather holds. Hay, $10 to $15 per ton; small quantities only obtainable; oats, $1.75; wheat, $2; corn, $1.30; chopped feed, $1.30; bran and middlings, $1.55; potatoes, $1.25 to $1.50 per cwt.; calves, $15; cows, $20 to $30; horses, $30 to $75 per head. F. T. KELSEY.

Moorhead, Mont., Dec. 29, 1902.

Located on the N. & W. midway between Cincinnati and Portsmouth, 16 miles from W. Union, the county seat of Adams Co. Country generally rolling and fairly productive. Not many P. F. readers. Farmers mostly well along with their work. Some corn not gathered yet. The weather has been very changeable, going from one extreme to the other; lots of rain and some snow. We raise corn, wheat, rye, oats, tobacco, clover and timothy, and some tomatoes for canning factory. Good farm help scarce. Plenty of good schools and churches. Nearly all kinds of fruit do well here. Laboring wages are from 75c. to $1 per day; girls, $1.50 to $2 per week; wheat, 72c.; rye, 50c.; oats, 40c.; corn, 45c.; clover seed, $3.50 to $5.50 per bu.; clover hay, $5; timothy, $9 per ton; hogs, $5 to $6; cattle, $3 to $4 per cwt.; horses, $25 to $100; cows, $25 to $50 each; butter, 17c. per lb.; eggs, 22c. per doz. Land sells from $15 to $50 per acre, according to location. Have been taking the P. F. for three years; have just renewed for another year; have every copy filed away for future reference; am well pleased with it. Success to the P. F. and its many readers for 1903. IRA C. HOWARD.

Seaman, O., Jan. 6, 1903.

Situated in Montgomery Co., 20 miles from Philadelphia. Soil fertile where properly cultivated, but some good farms for sale cheap on account of their being poorly farmed for years. We need not go West nor South for cheap land, as we have farms selling for from $25 to $500 per acre, according to condition of land and buildings. Very little land in this county but what was originally fertile and could be made so again by Terry and Massey farming. No better markets anywhere than in our small town and Philadelphia. Prices: Hay, $20; straw, $15 to $17 per ton and scarce; corn fodder, 4 to 5c. per bundle; hogs, $9 per cwt., dressed; cows, $40 to $100; horses, $75 to $250 each; bran, $20 per ton; corn, 60c.; oats, 50c.; wheat, 75c.; rye, 60c.; potatoes, 75c. per bu.; butter, 38c. per lb.; eggs, 38c. per doz.; help very scarce, wages very high. Weather cold since beginning of December. Coal scarce, wood high, $5 to $6 per cord. Winter wheat looking well. Some corn out yet, owing to very bad weather during December. May the P. F. have a prosperous year and continue to be the best of all agricultural weeklies. We cannot do without it. S. L. HALLMAN.

Collegeville, Pa., Jan. 6, 1903.

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Double the value of your corn crop. How? By using the McCormick corn binder and the McCormick husker and shredder.

Reduced Wholesale Prices

On all kinds of fencing wire, including the best Coiled Spring Wire made. Send for catalogue describing the Cleveland Fence, Coiled Spring and Steel Gates. The Cleveland Fence Co., Cleveland, O.

PRINTS YOUR NAME. POCKET STAMP PEN AND PENCIL. 15¢ POSTPAID

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PERKINS RUBBER STAMP CO., P19, NEW HAVEN, CONN.

Our Winter Subscription Campaign.

For several years we have been offering cash prizes for the largest clubs sent us by our friends, within certain time limits, in addition to our regular cash commission. We find that in many instances the regular subscription price of the P. F. has been cut by some of our agents in the keen competition which has resulted from a desire to get the top prizes. This, in turn, has led to difficulty in securing the renewal of these cut subscriptions at full rates, and renewal subscriptions have been lost in this manner. For this, and other reasons, we have decided to discontinue all cash prizes and commissions and offer only our Blocks of Six, which have been so popular during the past few months. In clubs of six yearly subscriptions sent at one time, the subscription price is 50 cents, three dollars paying for the six subscriptions. The subscriptions may be new or old, and the subscription of the club raiser may be included in the six. In other words, a present subscriber can send his own yearly renewal and five other yearly subscriptions, new or renewals, and $3.00 pay for the same. Each friend who sends us one of these clubs of six, can have the choice of any one of the following 13 premiums:

Our $1.00 Seed, Plant or Bulb Due Bill.
Our Great McKinley Book.
Terry's "Our Farming."
Massey's New Book "Crop Growing and Crop Feeding."
Greiner's New Book, "The Garden Book."
Greiner's "How to Make the Garden Pay."
Prof. Voorhee's "The First Principles of Agriculture."
Warren's Book, "200 Eggs a Year per Hen; How to Get Them."
The Horse and Cattle Doctor Book.
A Year's Subscription to The Practical Farmer.
A Practical Farmer Guaranteed Knife.
A Year's Subscription to the Thrice-a-Week World or Hoard's Dairyman.
"Dairying for Profit, or the Poor Man's Cow."

Outside of these clubs the subscription price of the P. F. will be $1.00 per year. Any one person sending us 50 cents will receive the paper for 6 months only. Our single subscription price is $1.00 per annum, no more, no less.

Now friends, we believe this to be the fairest proposition all round. And we ask your hearty co-operation in making our Winter subscription campaign a success. We thank you for your successful efforts in the past, and especially for the help you have rendered us during the past year. We want to make the P. F. a still greater force in American agriculture, and we want you to help to make it so. It's going to be better than ever during 1903, and if you will help us to put it into thousands of new hands, you will not only help to extend its usefulness, but at the same time give us the sinews of war to give you a better P. F. than ever before.

THE FARMER CO., Market & 18th Streets, Philadelphia.

50 cents pays for P. F. six months, $1.00 for one year, but $3.00 will pay for six yearly subscriptions, including your own. This is our 1903 campaign in a nutshell.

THE PRACTICAL FARMER.

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THE KEYSTONE TO SUCCESSFUL FARMING

Published Weekly By
THE FARMER CO.,
Market & 18th Sts., Philadelphia, Pa.

AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

The Practices of a Successful Pig Raiser in the North.

J. H. Waterhouse, Barrington, N. H., and Sidney Kenney, Philadelphia, ask questions about the pig business. The first friend says he can raise his own corn, mostly, and cultivates about 60 acres of land. He wants to work into pig raising and asks for suggestions, particularly from Forest Henry's experience. Mr. Kenney is in the business, but the failure of his crimson clover last Fall, owing to drought, has left him short of early pasture. If the man is living who has done as well as Mr. Henry I have not heard of him. As he is my right hand man at Minnesota Institutes, I am able to study his methods carefully, as I hear them explained daily. He keeps about 20 brood sows and raises one litter of pigs only in a year. These come along from the 15th to 30th of April. In 1900 he raised 157 pigs and sold them to a dealer to ship to Chicago, for $2,384. In 1901 he had about the same number of pigs and sold them to a dealer again for over $2,700. The price was a little higher. Each year he bought and fed about $300 worth of wheat shorts. All other food was raised. Thus he had in 1901 $2,400 net after paying for shorts. Only sixty acres of land were used for pasture and for growing corn, oats, rape and pumpkins for the pigs—all the food they had. Thus, not counting labor, he got $40 an acre for all land occupied by pigs and crops to feed them. Is not that a wonderful return? One year, some time since, he did 10 or 15 per cent. better than this. During the last 15 years he has never failed, as he reports, to get at least $25 an acre, no matter how low the price might be. His last year's pigs are not sold yet. He keeps them until they weigh 250 to 300 pounds. He thinks there is the most profit in selling them when they weigh 200 to 250, but one of the lots mentioned weighed almost 300 each on the average. He sells when they are along towards eight months old. They weigh about one and one-fifth pounds for each day they have been kept. This is not a great gain; many have beaten it; but Mr. Henry keeps them growing steadily, largely on cheap pasture, so this moderate gain is made very economically. That is his great point. This also tends to keep the pigs healthy. It is rather a startling fact that while hogs have died of cholera all around him, time and again, he has never lost one single one. He simply uses common sense in the breeding and care of pigs, pays attention to the simple laws of health, and nature rewards him as she will anyone else. There is not the slightest need of hogs dying with cholera, or taking it at all if they are properly bred and cared for. Mr. Henry uses for pasture for pigs three 5-acre lots of very rich ground, lying side by side. The middle one is a permanent pasture, particularly for early green feed, of June grass, white clover and other natural grasses. The pigs run in this every day in the year, having a warm sleeping room, with a cement floor, under a corn crib in one corner, and an out-door feeding floor with a tight board fence around it to keep wind off. The feeding floor is some little distance from sleeping quarters so pigs will leave their droppings on way to feeding floor, rather than on it. They are fed out of doors on this floor every day. If snow comes it is shoveled off. One object of this is to have floor where sun and rain can purify it. This helps about keeping pigs healthy. Fresh bedding is put in sleeping room often so it is always clean and dry. When pigs sleep on wet bedding there is a loss of at least 20 per cent. of the food they eat that goes to make heat and force. He uses little individual pens for the sows to farrow in. They are 6x8 at bottom, the frame being 2x4s spiked together. Then a gable roof is made of boards 6 feet long, using a 2x4 at top to nail boards to. Board up back and put a fender pole across inside to protect little pigs; none needed on sides. Board front down from top to within about 2 feet of ground. They cost less than $2 each. These are placed on the ground in dry places in permanent pasture. A sow will pick out her pen at farrowing time and stay in, or about it, for some weeks, with her young ones. The little pigs can get out on the ground from the first day and run about. This is the great point (better health) in connection with the very low cost of pens. A little straw is placed in each one. Remember pigs do not come until mild weather, when they can run out. In case of a bad storm two men can turn pens around back to wind. His average losses of young pigs with this system are less than one pig to a litter. It is a cleanly, natural system, and still very cheap and little trouble. In due time the sow takes her young ones to the large, light dry sleeping quarters. This room is so warm in winter that pigs never pile up. On one side of the permanent pasture Mr. Henry has, each year, a red clover pasture, and on the other a corn field, each 5 acres. Clover seed is sown in the corn at the last working, a full peck. In fifteen years he has never failed of getting a good stand. The corn is removed but stalks left standing. No pigs are ever allowed on the young clover the first Fall. The stalks hold the snow. The very rich soil helps to secure a stand. The land is too rich for small grain, hence this rotation with, and seeding in, corn. An enormous crop of corn is grown, as land has become very rich from the droppings of pigs for years. In the spring, early, Mr. H. sows, now, about five pounds of Dwarf Essex rape seed per acre, right on this young, new-seeded clover. Frosts and rains cover it. The plants grow up along the corn rows, where clover did not take well, and work in wherever there is a chance among the clover plants. The result is a mass of feed, clover and rape, enough to carry the stock all summer, in connection with the grass pasture and needed grain. When pasture gets ahead of pigs, either the grass or clover, he mows it off so it will start up fresh. Some years mowed was saved for hay, but the clover could not be on account of the rape in it, which would not cure out. Mr. Henry had intended to add another field to his rotation for pasture, and sow rape alone, but this clover and rape together he now thinks better. You understand that a clover and rape field is used one year only for pasture, and then is plowed for corn the next season, and the last year's corn field becomes the pasture that year.

You notice 10 acres are used for pasture each year, then the corn from 40 acres is used to feed pigs, and the oats and pumpkins raised on about 10 acres more, making 60 acres altogether. Mr. H. has more land, of course, and rotates clover, small grain and corn, so corn is not grown on same land each year, but the products of 60 acres only go to the pigs. A small field of heavily manured land is put in pumpkins each year, grown alone, not with corn. This helps keep pigs healthy and correct the effect from corn feeding. They eat a double box load per day. The pigs are fed a growing ration at first, as has lately been described; no corn. A small dairy is kept to supply skimmed milk for pigs. The cost of this is more than offset by the corn stalks that the pigs do not eat. To furnish the earliest pasture for next spring, in this latitude, where one hasn't clover, Mr. H. advises sowing a bushel of barley and 5 pounds of rape seed per acre. Make 2 sowings, say 3 or 4 weeks apart. Turn pigs on rape while it is small, or they won't eat it. Rye makes a good early pasture, but does not last long; soon gets tough. Mr. H. uses the common red clover. His methods would all work well in N. H. The same crops could be grown, and certainly one should raise but one litter a year. If a sow raises but one litter they can run with her longer, and will be stronger, and need not come early, and danger from cholera is much less. A fall litter in the North must be fed on costly grain and dry feed; no money in it. Circumstances are different in the South. Green feed can be furnished most of the time. Our readers will find above a brief outline of the best system of growing pigs successfully that I know of. The two friends named can certainly find answers to their questions in this article. A man with small means can go into pig raising in this way, because the cost of buildings, and stock to start with, is small. Get some good breed and a pure bred sire. Keep the sows some 5 years, or as long as they raise good litters. The same with the male. Breeding from immature stock year after year, and inbreeding, is one cause of lack of vitality that allows cholera to get a foothold. Don't cross breed, or be changing around, but stick to the one good breed. Mr. Henry has Poland-Chinas. There are other good breeds.

After Your Daughter Becomes of Age—What Then?—A Tennessee lady has the following to say in a private letter: "I want you to advise justice for the daughters who stay at home after they are of age, and no matter how many years, they rarely get more than their board and clothes, with possibly $100 when they do get married. Sometimes she is right hand man to her father. Sometimes her mother needs her and she stays at home from a sense of duty. Should she marry 10 or 15 years later she rarely gets any more than a sister who married at 18, except her board and clothes. That is about what she works for really. Is it right? Her brother, if he stays at home, generally gets $100 at 21 and wages afterwards. He is usually helped to get started outside, or it is made worth his while to remain at home. Why should not the daughter be equally well treated?" It is easy but not pleasant to give the answer. The old idea, that man is the lord and master, the important being, and woman the inferior, and her work of less importance, has not yet been lost sight of by all. Slowly, but surely, however, woman is taking her rightful place in the world; that is as the equal of man, in every respect. There have been great gains within 50 years. I am pleased to hear that the common custom where you live, is as favorable for both boys and girls as you report. There are many sections where the son does not get $100 when of age, nor suitable wages after that time, if he remains at home; nor is the daughter at all sure of $100 when she marries. And still parents generally love their children and would not think of doing either son or daughter an injustice, knowingly. The present state of affairs is a matter of custom, of doing as their parents did before them, of continuing inherited practices, rather than sitting down and studying out what simple justice demands in the matter. Custom has set a time when son and daughter have paid their parents for the expense of bringing them up and educating them, and after which they are their own masters. If this time is right it should be lived up to; if it is not, it should be changed. After they are of age, son and daughter should have at least the same wages, if they remain at home, as the parents would have to pay others for the same labor. This is morally due daughter just as much as the son. If they will not work as well and earn as much at home as they would elsewhere, it would be the part of wisdom for the parents to let them work for others, and hire someone else to do their work. It would benefit the young folks. But, as a rule, they will work as well at home, if they are properly paid for it. And their wages should be paid to them just as conscientiously as to any outsider. There are quite a few who now do this. Is there any just reason why all should not, except where the parents are actually too poor or infirm. We must always remember the duty the child owes to the parents under these circumstances. But duty does not demand that a child, after he or she becomes of age, should work for the parents at a loss to himself or herself, if the parents are able to take care of themselves.

But I am to talk for the daughters this time, particularly. How many of them, dear women, have stayed at home year after year, because their parents, almost selfishly sometimes, I fear, thought they could not get along without them, until now their chances of getting married and having a family and home of their own are slim. It seems to me that if there are any seats in Heaven that are better than the average they ought to have them. And in such cases justice demands now that if these parents leave any property these daughters should be well paid first of all, whether other chidren get anything or not. See to this matter at once, my elderly friends, who have daughters at home cheerfully caring for you in your declining years, so injustice cannot be done them in the future. If you appear before your Maker without doing this what can you say to a just God? Now, my dear friends, if that little girl of yours has grown to womanhood I know how she still seems to you as only a child, one of the family, as of old, but she isn't. Let me beg of you to at once begin to deal fairly with her, to encourage her, to teach her the value of money, by paying her regularly just wages, or letting her go where she can earn them. Then help to put her savings in some safe place at interest.

T. B. Terry.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

When and How to Dehorn Cows.—When is the best time to dehorn cows? Is it safe to dehorn them in cold weather? Is it necessary to apply anything after cutting horns off? Are the convex clippers good for dehorning cattle? W. R.

New Brunswick, N. J.

(Reply by T. B. Terry.)

I should not hesitate to have horns removed during a mild spell in Winter; surely not in the latitude of New Jersey. Keep cows from exposure to wet and cold, of course. One should do this anyway. It is not customary to apply anything after the operation. Once in a great while we hear of a case where serious bleeding followed but there is rarely any trouble. Some use clippers and some a fine, sharp saw. Take the horns off close up. It doesn't matter particularly how it is done, only so horn is cut off without any crushing or splintering. The cow should be held perfectly quiet in a stanchion, and a quick, smooth job done and then, as a rule, she will not even shrink in her milk. And there will be no more hooking and injuring of other cows.

Various Queries. — F. A. Fauver, Arborhill, Va.—"I am in possession of a farm of limestone clay, soil badly run down, but clover and timothy do well, though somehow wheat does not do as it should. I wish to ask, first: I have millions of what are called blue thistles. How can I get rid of them to best advantage? I have twenty acres I want to put in rye next Fall and want to get field in orchard grass for pasture. Shall I plow the land about June and fallow it? Second: I have 16 acres of rye growing now. Will it be safe to pasture it when dry, so as not to tramp the land, until the first of April? I wish to cut it as a grain crop. I am not like A. C. S. in the Country Gentleman, who supposed that it was intended for permanent pasture." First, the weed you call blue thistle is doubtless Echium Vulgare or Hormastongue. It is quite a troublesome weed in some parts of Virginia and Maryland and the best way to get rid of it is to keep the land so crowded with smothering crops and mowing that the thistle has no chance. You can finally crowd it out in this way. Now as to preparing the land for rye next Fall. The best thing you can do is to plow it early in the Spring, put it in good order and sow cow peas about the first of June at the rate of one bushel per acre, broadcast. Mow these for hay when the first pods begin to turn yellow and cure them for feed. Then prepare the land for rye with a disk harrow or cutaway, going over until the stubble is perfectly fine. Then drill the rye in September or October. As to your second question, we would say that when the land is dry you can pasture the rye to advantage up until the first of April, and it will not injure it as a grain crop at all.

Crimson Clover and Peas. — G. W. Allman, Gordonsville, Va.—"I have a fairly good stand of crimson clover. I am thinking of letting the seed ripen, and then working the soil with a cutaway and sowing about half a bushel of cow peas per acre. I think that by this plan I can get a stand of clover for next winter, and let the peas lie on the land as a protection to the clover and to add humus to the soil. Do you think this a good plan?" No, we do not think it would be a success. The peas would probably grow too rank and smother the young clover. We have gotten a stand of clover sown among peas, but only where the peas were very thin on the ground. Where they were thick there was no clover. We think that the better plan will be to mow the clover and thresh the seed out. Then when the clover is cut turn the stubble and sow the peas more heavily. Cut them for hay and prepare the stubble with the cutaway and sow the seed in the chaff thickly. It will take about 40 pounds of the seed in the chaff to sow an acre, and they will germinate better than if cleaned out well. There is no doubt about the clover standing the winter in your section. It stands much further north and in a colder climate. Crimson clover is generally sown too early and gets injured by the sun. We have had better success here from sowing in October than earlier, and you could sow in late August or early September, after the peas are harvested. Then, as we have often said, we do not believe it good farming to bury a crop that makes such fine feed as cow pea hay. Far better feed it and get the feeding value before making manure of it.

Cow Peas in Corn. — "Would it be profitable to sow cow peas in corn at last working, and let them lie on the ground to be plowed under in spring for improving the soil?" If cow peas do well with you it will certainly pay to sow them among the corn before the last working and cultivate them in. Then it will pay you, when the corn is cut to sow rye all among the dead pea vines to make a green winter cover and nitrogen trap and plow all under in the spring for other crops.

Floats.—"Please tell me where I can get floats, what they cost and what percentage of phosphoric acid they contain." You can get them from dealers in fertilizers in Nashville, Tenn. The price we are unable to give, and we would advise the manufacturers to advertise their goods. The percentage will vary greatly in different samples of rock. The Tennessee rock is about the richest known and will contain about 30 per cent. of phosphoric acid in the insoluble form, or about 70 per cent. of the monobasic phosphate of lime. The floats are the natural rock finely pulverized, and are slower in coming into use than the dissolved acid phosphate.

Lime Substitutes.—C. J. Kolbe, Upper Marlboro, Md.—"Is there any substitute for lime, as lime and freight are high. Stone lime will cost about 15 cents per bushel delivered at the station and shell lime about 10 cents. Would it be advisable to spread air-slacked lime on wheat when the ground is frozen, or will it be better to let it alone till wheat is cut and sow it on the stubble for the benefit of the grass, as we cannot raise grass without lime. I can get gas lime for two and a half cents per bushel. Which would be the cheaper for me? Would like to have the experience of readers of the P. F. with shredded fodder. Does it keep well or make the mouths of cattle sore? Is the shredder and husker a success, and which machine is best? Also which is the best corn harvester?" There is no substitute for lime where lime is needed in agriculture. If you can get stone lime, unslacked, at 15 cents per bushel delivered you can well afford to use it. Good, fresh stone lime ought to slack with water nearly three bushels for one, and fresh shell lime two bushels. We would prefer the stone lime. Experience has shown that the old practice of putting 50 or more bushels of lime per acre is entirely needless and that a much smaller quantity used more frequently is just as effective. We would get the stone lime and slack it with water till it falls and then would apply it this spring to the clover sown last spring. We have never used lime on wheat and cannot say what the result would be. From 15 to 20 bushels of freshly slacked lime will be enough to apply on the clover, and that is the place where we have always found that it pays best. Let the gas lime severely alone. It is apt to do more harm than good. We will be glad to hear from anyone in regard to shredding. We will say, however, that the shredder and husker is a success and that the shredded fodder will keep in a stack. The McCormick harvester is the only one we have used and it does excellent work.

Potatoes on Bottom Land. — A. P. Stewart, Katz, W. Va.—"I want to plant a piece of bottom land in potatoes, and want to use phosphate to grow the potatoes. How much should I use per acre and what kind, and where can I get it? Land is black and sandy. What variety of potatoes should I plant for an early crop?" The kind of land described should make good potatoes if it is well drained. There is only one kind of phosphate used as a fertilizer, the phosphate of lime. You probably use the term, as is common in some places, to mean a fertilizer of any sort. Of course these all have some phosphate in them, but it is an error to call them phosphate Commercial fertilizer is a better term. Potatoes need a fertilizer containing a fair percentage of nitrogen and phosphoric acid, and a large percentage of potash. To make a ton mix 900 pounds of acid phosphate, 700 pounds of cotton seed meal and 400 pounds of muriate of potash. The growers of early potatoes in the South for the Northern market would use 1,000 pounds per acre, but they double and treble crop their land. You should use 500 pounds per acre in the furrow. You can get the materials from any dealer in fertilizers in Cumberland, Md., or Baltimore. Plow the land as early in spring as it is in good order to work, and plant early. There are a number of excellent early potatoes. Maule's Early Thoroughbred we have found to be a first-class potato. Early Ohio is an old stand-by and Bliss's Triumph is largely planted in the South. The first named will give the largest crop. You can get the seed potatoes from Wm. Henry Maule, Philadelphia.

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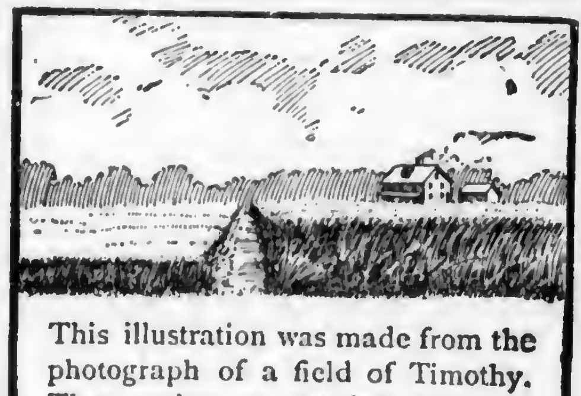

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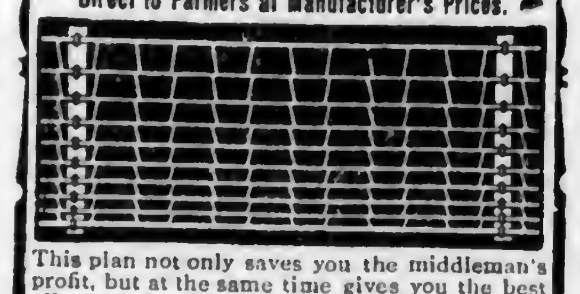

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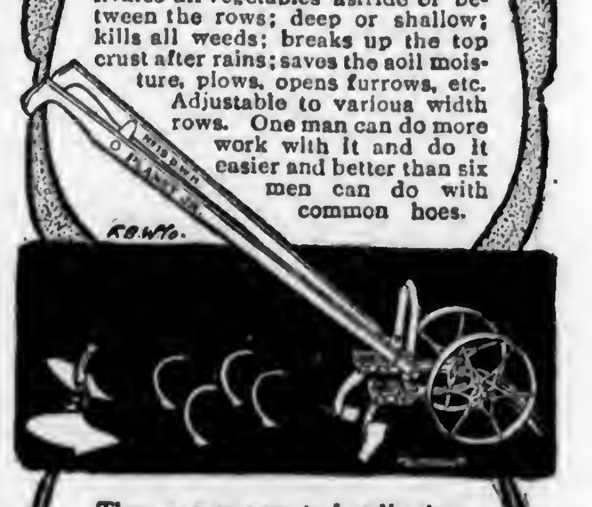

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Cow Peas and Soy Beans. — M. A. Dunlap, Academy, W. Va.—"Our latitude is 38 and our altitude 2,500 feet. Soil heavy clay and clay loam. Have tried cow peas several times, but they have failed here. Is it probable that any variety of the soy bean would succeed here. Our climate is about that of 46 degrees on the seashore." Under the conditions named there is little prospect for the cow peas doing anything, as your nights are too cool in Summer. Even in North Carolina in the high plateaus of the mountain section from 3,000 to 4,000 feet above the sea the cow pea does not thrive, while it does thrive a long ways north of there at a lower level where the summer nights are warmer. We think that you might succeed with the Medium Early soy bean planted in rows and cultivated like corn. Cow peas will thrive north in the great corn belt, where they have the same conditions that corn likes best, but in a mountain section, where the summer nights are cool, they do not thrive.

Addresses Wanted. — Arthur Steagall, Brownfield, Ill., asks for addresses where he can buy acid phosphate. You can buy this from any dealer in fertilizers in St. Louis or in Louisville, Ky., or in Chicago. Fertilizer dealers and manufacturers should advertise their goods in the P. F., as we have many such inquiries.

Bromus Inermis.—A. A. Wright, Mission, Wash.—"I have a side hill slanting to the north, quite steep, which is too dry for clover, and I want to make a pasture of it. Would it be best to seed bromus inermis alone or with some mixture? Does a Thomas smoothing harrow differ from a common lever steel harrow?" In such a location the bromus inermis should do well and make a strong sod. We would seed it heavily alone. The lever harrow amounts to the same thing as the Thomas harrow and is an improvement, as it can be set upright when needed.

The Cotton Crop. — M. G. Roberts, Washington, Ga., asks our opinion as to the cotton crops. He says that the crop just over has been, with him, the poorest he has made in 60 years. His opinion is that the Department estimates are the most reliable, as they are disinterested. There never was a season when it has been so hard to make a correct estimate of the amount of cotton produced. All over Georgia, as we noticed in traveling over the State, the cotton crop was a very poor one. On the other hand, in North Carolina the crop has been generally good. The estimate of the Agricultural Department was, early in the season, quite high. But after the great drought had affected a large part of the cotton country the Department estimate fell from 95.1 per cent. to nearly 50 per cent. In October the census report was for 9,678,000 bales. After this estimate was sent out the mild autumn made an unusual production of the top crop, and at once the men who are interested in bearing the cotton came out with estimates from 11,000,000 to 12,000,000 bales, and the market broke badly. The conditions are so peculiar that it is merely guesswork as to what the total crop will be. In Texas the ravages of the boll weevil in some sections has seriously damaged and even ruined the crop. One grower there told me that he would not get two bales on 100 acres of land. The best authorities say that the requirements of the world this year for American cotton will be equal to about 10,600,000 bales. One authority says that it will be 300,000 bales in excess of this on account of the great increase in the demand by home mills. The New York Post says that "Should the crop fall much below 11,000,000 bales, and the world's consumption prove no greater than last year's total of approximately 10,500,000 bales, the statistical position of the staple at the close of the season on September next, would be fully as strong as at the close of the last season," and would make the spinners of the world dependent on the realization of a good crop next season. From all the data we can gather we are of the opinion that the crop will not go over 11,000,000 bales, and we give this as our guess, which may be as good as the other guesses. In fact, we think it a pretty liberal estimate.

Propagating Dewberries.—Dr. D. K. Briggs, Blackville, S. C.—"Is there any other way for propagating the dewberry other than burying the tips? I have Austin's dewberry, and wish to increase my stock rapidly, and rooting the tips is rather slow." If you layer the entire cane at this season we think you will get plants from nearly every joint. Or you can take up large plants carefully and cut the roots into pieces about three inches long, and plant these thickly in rows and cover about three inches. Either method, we think, will give you new plants rapidly. Most of the dewberries come fairly true from the seeds, and in this latter way you might get an improvement.

Influence of the Moon.—A Tennessee friend writes that he knows that timber cut in the new moon will last as long again as when cut in the old of the moon. Timber cut in the new of the moon will sprout much worse than when cut in the old of the moon. He cut sprouts and briars in the dark of the moon in August, and it came nearer to killing them than at any other time. He wants to have the experience of some who have tried the cold water paints. He thinks the departments are all good in the P. F., but he always turns to the Short Cuts first. Well, we do not think that it will do any particular harm for a man to believe in the influence of the moon in these things. But we never regarded anything of the sort and have not lived long enough to decide whether timber cut in the new moon will last longer than that cut at any other time. In fact, we have never consulted the moon in regard to any business transaction and never expect to. We would cut timber and firewood at any time when the trees are dormant in winter, and do not believe that the moon takes any notice of what we do in this matter. We plant when the ground is ready and the season proper and if the moon takes any interest in our planting we let her take it. The moon is quite handy when she shines at night and one wants to go about, but for any other purpose we do not pay any attention to the moon. If any of our friends have tried the cold water paints we will be glad to hear of their experience. Plenty of clover and the mowing machine will kill briars and sprouts faster than any particular time for cutting them.

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The cure for these troubles is Dr. Kilmer's Swamp-Root, the world-famous kidney remedy. In taking Swamp-Root you afford natural help to Nature, for Swamp-Root is the most perfect healer and gentle aid to the kidneys that is known to medical science.

If there is any doubt in your mind as to your condition, take from your urine on rising about four ounces, place it in a glass or bottle and let it stand twenty-four hours. If on examination it is milky or cloudy, if there is a brick-dust settling, or if small particles float about in it, your kidneys are in need of immediate attention.

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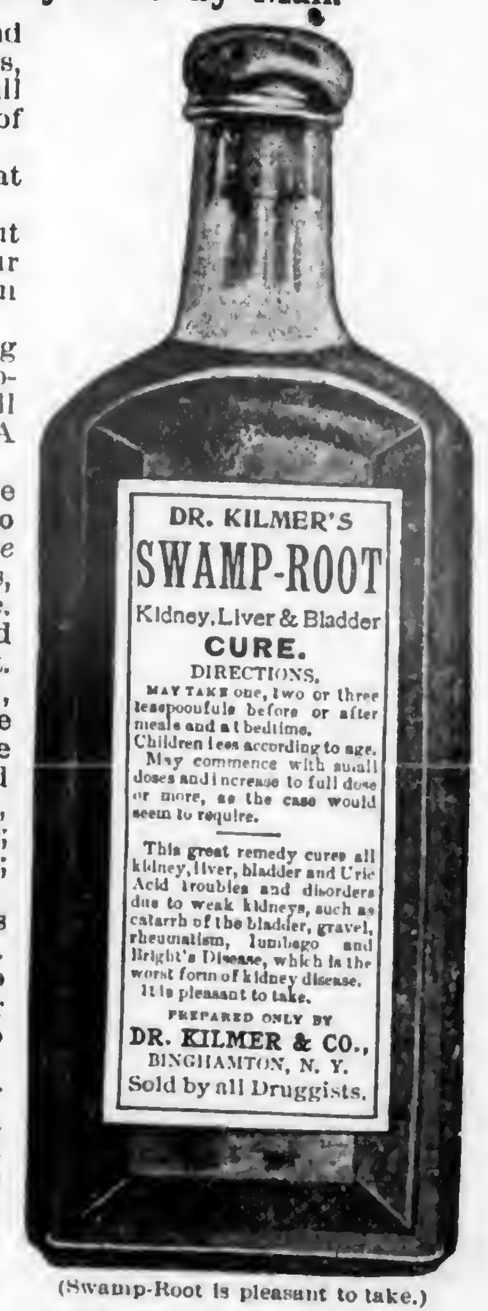

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Children less according to age.
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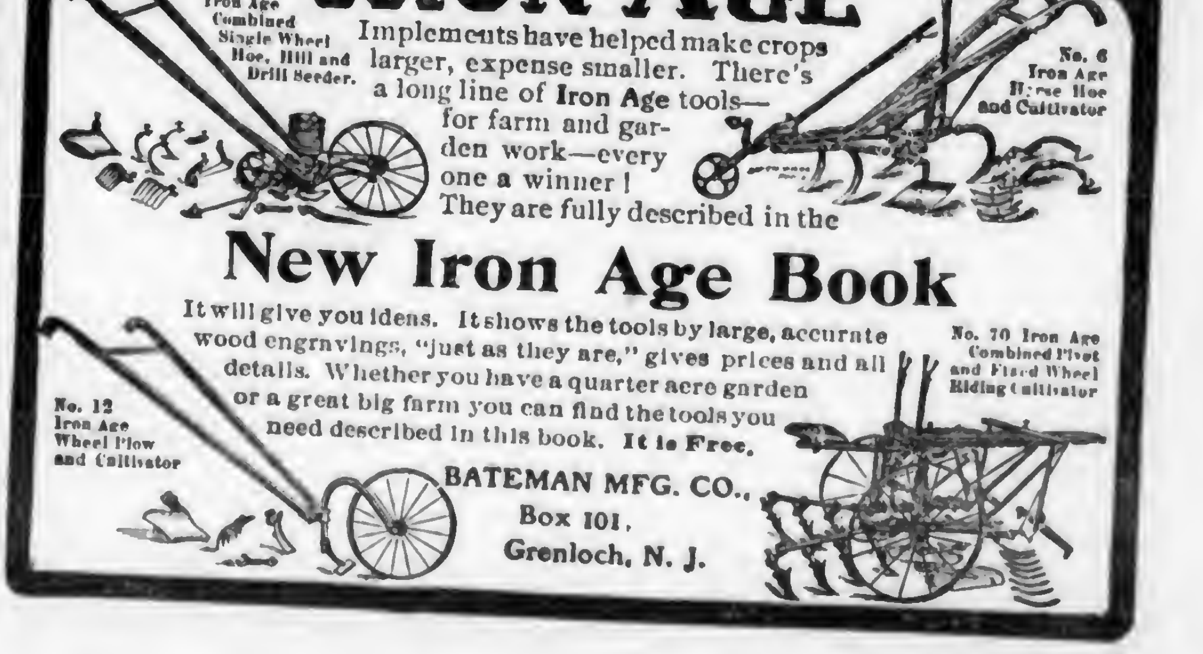

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A Great Combination.

While we keep this department up-to-date on stock and dairy matters, we know that many of our readers would like, in addition, an exclusively stock paper. Among them we regard The Breeder's Gazette, of Chicago, the leading one. We have made arrangements by which we can send the P. F. and The Breeder's Gazette both one year for only $1.90.

Stock Queries.

Butter Does Not Come.—I would like to have your opinion about my churning. The last two churnings I churned on for three hours and abandoned them. Have but one cow, coming fresh in March. She is a grade Jersey and gives, now, 10 quarts per day. I feed clover hay, corn stalks, bean pods, four quarts corn, on ear, in morning and eight quarts of raw potatoes at night. Salted regularly and has running spring water. Milk is not let stand over 36 hours, and churn every four days. Have had no trouble heretofore, frequently churning in five minutes, and never over half an hour.
Holly, Mich. John J. Haas.

Would like to ask why my cream is so hard to churn, and after churned the butter will not gather? My cream has been this way about four weeks. A. B. M.
Limestone, Tenn.

(Reply by H. Stewart.)

The trouble in both these cases is simply the low temperature at which the cream is kept during the interval between milking and churning. Temperature has such a remarkable effect on the cream that it makes the gathering of the butter, as well as sometimes the separation of the butter from the cream, difficult or impossible. Some of the trouble is due to the effect of cold on the cows by which the character of the cream is changed from the ordinary. Keep the cows warm, give them once a day a warm mash, keep the milk at a temperature no lower than sixty degrees, and ripen the cream by keeping it in a warm place and stirring it frequently, churning it at the same temperature; and if this is done the work will turn out the same as it does in the summer. To properly ripen the cream, stir into two gallons of it half a pint of the buttermilk saved from the last churning, and keep it at a temperature of sixty degrees until it is properly soured; and when it is stirred it has a silky sheen on the surface of it. Keep to the same temperature during the churning. To properly balance the ration some kinds of grain food should be given, the best kind being wheat bran, or the gluten or cotton seed meals. Two pounds a day of either of these with corn meal and bran in equal proportions, will be desirable. Cows differ so much in appetite and ability to usefully dispose of foods that it is impossible to give any distinct ration for each. This is to be established by trials with each to discover what quantity may be consumed with most advantage.

Cows or Sheep, Which?—I have fifty acres of old hill land that is only fit for pasturing at present, and very poor at that. I also have over 100 acres which lies well enough to bring into cultivation with lots of manure and fertilizers (if I had them). Now what I want to know is this: On this 50 acres of old hill are two never-failing springs and it is an ideal place to run a dairy of from ten to twenty cows. I believe with proper management a dairy would pay here, of this size. A friend made me this proposition: I to furnish this old field for pasture, build a barn to house the cows and furnish everything to run the dairy, including the cows, and he to attend the cows and do the milking and marketing the milk and butter, he to furnish all the feed but pasturage. The only revenue I am to receive is the calves at two months of age, and the manure. I am not acquainted with the value of the manure, so I could not answer him. This does not seem enough for the amount I would have invested. Please give your idea about this. Is it enough or not? The cows would get the benefit of all manure on this 50 acres in the increase of pasturage, of course. I will sell him all the feed I can spare, as I have plenty of good ground to grow it on. T. H. O'Bryan.
Hopkins Co., Ky.

(Reply by Dr. Galen Wilson.)

You would certainly not get sufficient compensation for your investment. You furnish the pasturage, cows and shelter and the only return you get is the calves and the manure, and in careless hands this would amount to but little in money value. Cows leave their manure in heaps where they graze and this is a detriment to the grazing the first season and of small benefit subsequently. The manure which is made in the stable when grain is fed is very valuable if only properly saved and cared for, and then applied to the pasture lands; but not one dairyman in twenty will do so. Why not invest your money in sheep. They will care for themselves when grazing, drop their fertility on the land and spread it, too. The same money invested in ewe sheep that you would invest in dairy cows would be far better for you. In cash returns they would surpass that of the cows even should you have all the milk and butter.

Ailing Cow.—I have a cow seven or more years of age. She came in heat so late that I let her go over a year, but wanted her to come fresh next spring. But she seems not to be in calf now. She is the only cow we have and does not show much sign of being in heat. She is a fairly good cow. What shall I do with her? She seems inclined to cough some, and sometimes has a swelling under the throat and then breathes hard. Would be glad if you would discuss the matter in the P. F. Is there much loss in quantity of milk if a cow goes dry a year or two?
Orange Co., N. Y. J. W. Palmer.

(Reply by Dr. Galen Wilson.)

A cow at her age and in her condition would be unprofitable to keep. One could not depend upon her being a regular breeder and milker. Besides, she possibly may be afflicted with tuberculosis. Have a veterinary surgeon test her. When a cow goes dry a year or two, if a young one, there is not likely to be any shrinkage in her milk afterwards; but not so if the cow is of considerable age.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 1016 Davis St., Evanston, Ill., who has editorial charge of this department. All inquiries requiring answer by mail must be accompanied by a fee of $1 each.

Nervous Disorder.—I have a cow with her second calf; the last has been weaned two months. With her first calf she kicked when milked a week or so, and was then gentle. When her second calf came she did not kick more than any cow with new calf, until the calf was two or three months old; she began to kick when calf sucked or she was milked. We weaned calf two months ago and thought she would get better, but she gets worse; it is almost impossible to milk her, and if she were not very easily milked it could not be done. Her udder and teats are perfectly sound, yet I know her udder is sore and she suffers great pain when milked, especially when the milk "comes down" or begins to flow freely. She comes in heat oftener than any cow I ever saw, and is always worse at that time.
Marion, N. C. G. C. Conley.

We do not think there is any real soreness about the udder but a supersensitiveness of the nerves (hyperaesthesia) in the mammary glands. This is likely to prove incurable, as it is an inherited trouble. Try giving the cow a pound dose of epsom salts in two quarts of warm water, and afterwards feed on soft mashes of bran, ground oats, a little corn meal and flax seed meal. Each time before milking hand rub the udder well and gently and see that the cow has a tempting meal in front of her to take up her attention. If this does not suffice then we would give her twice daily a tablespoonful of a mixture of equal parts of fluid extract of hydrastis canadensis and fluid extract of ergot, three ounces of each. This will prove curative of the leucorrhoea (whites), from which she is suffering and which may be associated with the nervousness complained of. At the same time it will be necessary to give local treatment and this will consist in injecting into the vagina once daily for a week, and then every other day for ten days, two gallons of milk warm water in which dissolve half an ounce of tannic acid. This is best injected by means of a 7-foot length of half-inch rubber hose with long nozzle attached and fitted to a tin spout let into the rim of the bottom of a large, clean pail to be hoisted over the cow's back by a rope and pulley.

Sudden Death.—Last night I fed my cattle as usual, on cotton seed and fodder. Nothing was wrong. This morning something seemed to be wrong with the left eye of one heifer. It seemed to be itching and grew worse very rapidly; she was soon rubbing her eye, jaw, chin and ear. She was heavy with calf. I did everything I could think of, but she grew worse. She would not lie down. At 2 P. M., just about eight hours from first attack, she dropped to her knees, fell over on her side, dead, as if she had been shot. S. B. Spurlock.
Kings Mill, Ark.

A post mortem examination would have been necessary to disclose cause of death. Death following so soon after attack might indicate some such disease as anthrax, but that would have been accompanied by swelling and escape of blood from natural orifices of the body after death. Another cause might be rupture of a blood vessel on the brain due to blow or some such cause. An eye disease is common where cattle are long fed a well nigh exclusive ration of cotton seed hulls, but death does not usually occur, merely eye trouble and great emaciation and weakness.

Scratches.—I have a horse that has the scratches in both hind legs. Has had them for about a month and a half. I have used concentrated lye on them; also have fed two packages of stock food; he is very little improved. John W. Orrock.
Fredericksburg, Va.

"Scratches," so-called, are not usually due to trouble of the urinary organs, but are caused by washing the legs during cold weather and allowing the animals to stand in a draft. The legs should not be washed when horse is predisposed to scratches, but should be well dried by rubbing with sawdust. There is a form of this disease which is due to blood disorder and this is characterized by a bad smelling discharge from the sores, which is not present in ordinary scratches. Such cases are usually found in heavy horses that are heavily fed and not given sufficient work or exercise and it is most common where the stables are dirty and badly ventilated. Poultice the affected parts for two days with hot flax seed meal, renewing the poultices night and morning. If there is a bad smelling discharge mix a couple of tablespoonfuls of powdered wood charcoal in each poultice. When poulticing is discontinued dry the parts well then apply the following ointment freely: Flowers of sulphur, half ounce; spirits of camphor, two drachms; compound tincture of benzoin, two drachms; lanolin, two ounces; mix. See that stable is clean and well ventilated. Place horse in box stall and give work or exercise every day. Stop feeding grain for one month and substitute bran mashes, carrots, hay and fodder. Give internally, night and morning, half an ounce of Fowler's solution of arsenic for two weeks, then stop its use graduallly. Arsenic must not be discontinued suddenly.

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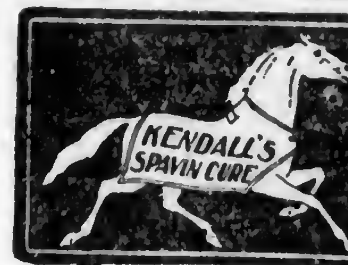

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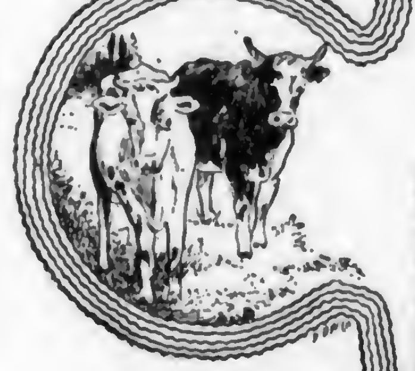

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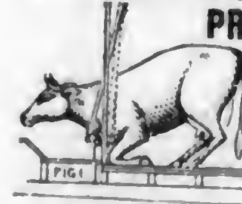

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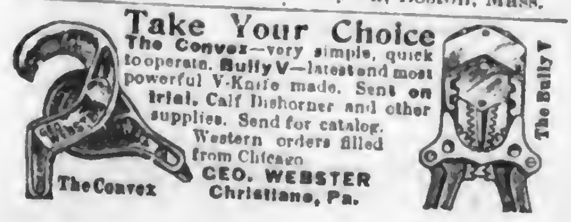

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THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

Current Comments.

Vegetables "Running Out." — J. Hicks, of New Richmond, O., says he has set out a parsnip for seed; some scattered seeds grew and bore seed again. He wants to know whether by such continued propagation the parsnips will return to the "wild form." All, or almost all, of our present vegetable varieties are the result of evolution in the direction of improvement. If left to themselves, to battle with unfavorable natural conditions which year after year prevent their full development, the evolution must, of course, be in the opposite direction, *i. e.*, towards degeneracy, and finally land them back into the state from which they originally came from when man took first hold of them. You will probably be able to grow fairly good parsnips from seed gathered for a long series of years from plants springing up from self-sown seed in your garden. But the tendency of the roots, finally, will be to grow smaller, more scraggly. How long this process will take, or how long it will be safe to plant such seed, I am unable to say, and I don't believe there is any horticultural expert at the present day who could predict with any degree of certainty in how many years' time a good parsnip could, by neglect, be made worthless for cultivation. The only safe way of growing seed, or parsnips, as well as all other vegetables, is to select the most perfect specimens for propagation. That is what our seedsmen are, and should be expected to be doing in the growing of seeds.

Commercial Citron. — A. Lemon, of Los Angeles, Cal., asks how to preserve or candy citron for flavoring purposes. The commercial citron is made from the thick rind of the citron fruit. Perhaps some California or Florida reader may be able to tell us the process.

Italian or Black Bees.—G. W. Winiker, Gibson, O.—"A lady neighbor, the other day, told me that before she got Italian bees, she always had plenty of honey, and more than the Italians have made, and the black bees were not nearly so cross. I would like to know if this is correct, and to have the experience of a number of P. F. readers." It seems to be well established that Italian bees are better defenders of their homes than our old black bees, and consequently they may appear cross at times. But our experienced beekeepers handle the Italian bees just as easily as the black ones. Italians, if given the same chance, and when in the same condition, probably store as much honey as blacks. The latter, however, often produce a smoother and whiter looking comb honey than the Italians, owing mainly to a different method of capping the combs over. Let us hear from beekeeping readers.

Soot. — Corn Fodder. — Altering a Hog.—L. J. Chapell, Eldorado Co., Cal. —"1. For what crop is soot from the stove and stovepipe most valuable as a fertilizer? 2. When is corn ready to cut for fodder to feed dry to stock? 3. How long after altering a 200-pound fat hog will he make good meat?" 1. There is almost no fertilizing value in soot. It is claimed, however, that by mixing it with rotted sods, etc., for potting soil in which roses are to be grown, the plants will show a great improvement in thrift and bloom. 2. Corn should be allowed to mature the ears. When planted so thickly that corn will not form, the stalks are not worth much for fodder. Give the plants room enough to develop at least what are called "nubbins," and let them get ripe. In that condition the fodder is first-rate, green or dry. For silage, the corn is usually planted far enough apart that it will develop large ears, and it is cut when the ears are just beginning to glaze. 3. Not much can be gained by altering a fat hog. The proper age to do the job is when the pigs are very young, a few weeks old at most. If allowed to grow older, before altering, the operation should be performed before the pig is fattened. It will then make better meat. If once fat, you might as well kill it without torturing it by a useless and cruel operation.

Managing the Home Garden.—A. H. P., Savannah, Ga.—"My garden, 35x60 feet, of a light gray, sandy soil, has been planted in vegetables for about ten years. It has not given satisfactory results and I would thank you to suggest what fertilizer, how much and how and when to be applied, I need. The garden has been liberally manured with cow manure for the past ten years; last year I used some kainit. I fail especially on tomatoes. I make a good plant, but practically no fruit." This seems to be a home garden, being a quarter acre in size, and planted with all sorts of vegetables. If I knew more particulars about it, especially which vegetables succeed and which do not, and how they are planted, I might be able to tell what ails this garden, and how it should be treated. Probably most vegetables do very well, and I see no reason why they should not when the land has annually been well manured with cow manure. The trouble with the tomatoes, probably, is that the soil is too well supplied with organic plant foods for the tomato varieties planted, or the space given to each plant. Some varieties, when planted on rich soil, make an excessively large amount of leaf and stalk, and when crowded, will refuse to set fruit. In fact, this is the case with most of our standard main crop sorts. In order to make them produce a large amount of excellent fruit, on such soil, I would refrain from further applications of organic manures, and in place of this, in your case, I would give a dressing of lime, or possibly coal ashes, with or without wood ashes, or if not lime, 50 to 100 pounds of dissolved rock (200 to 400 pounds per acre); then set the plants five feet apart each way; or if set closer together, trim the plants to single stalk and train to a stake or pole. Or you may select varieties like Earliana or any of the dwarf kinds which do not make so much vine growth, and in case of Earliana, thin out part of the fruit as it usually sets too freely—so freely, indeed, as to kill the plant by overbearing. Try applications of lime (either freshly burned or air-slacked, or even gypsum) or superphosphate, leaving out the usual dressing of cow manure, for a year, and this for all your garden vegetables. Should they, in course of the season, show the further need of plant foods, give a dressing of nitrate of soda or some complete high grade fertilizer, applied between the rows, and well worked in the soil with hoe and cultivator.

Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Begonia Glorie De Lorraine.

The family of begonias has long been known as one furnishing some valuable sorts for window use. There is a section in which handsome leaves are the chief feature, another where the flowers are chiefly considered. The one named Glorie de Lorraine has become extremely popular, though it has not been in commerce very many years. Florists saw its merits, and grew it largely for Christmas and Easter trade, the former, principally. The flowers are light pink, and are borne in the greatest profusion on quite small plants; and it is very much at home in a sunny window. It certainly is a most desirable Winter flowering plant.

Bush Fruits from Cuttings.

What are known as small fruits include the gooseberry and the currant. These are sold for a few cents each by those who grow them in large quantities, making it almost unnecessary for one to raise them himself. But there are many who are too far away from those who sell them to make the procuring of plants an easy matter, and the producing of a few from cuttings would be desirable. Both the gooseberry and the currant are fairly tractable in the way of rooting from cuttings. Currants made into cuttings and set out in late summer will be rooted before cold weather comes. At this season of the year cuttings may be made. Kept in a moderately cool cellar until spring and then planted out of doors, the greater number will root. About one foot lengths are right, using the growth of the past season. Bury the cuttings in the cellar, in damp soil, burying the whole but a few inches of the top. Set them outdoors as early in spring as the ground will permit.

Grapes may be treated in the same way, though it remains to be said that certain sorts root less readily than others; and this is true of some varieties of gooseberries. Mulberries root in the same way, though in my own experience I have but little success with what are called the everbearing sorts. These, especially the Downing, seem opposed to being increased in this way, but they yield to layering.

But few persons think to try apples, yet, as a rule, they root very well from cuttings. There is many a choice sort its owner desires to increase, a desire he could gratify by making cuttings of thrifty young shoots and treating them as recommended for the small fruits. But while a foot in length is about right for the small fruits, I think 18 inches would be better for apples, setting them six inches deep in the open ground when the time came.

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Horticultural Queries.

Seedling Peach Trees.—Does it pay to set seedling peach trees? If not, why do some commercial peach growers set large quantities of them? At what age should seedling peaches be grafted, and the season of the year? What is the best way to propagate currants? B. C. GRANT.

Corunna, Mich.

Peach trees of named kinds can be bought at such a low figure that, though seedling peaches are often very good, the custom is to plant named kinds. You might set out a hundred seedling peaches and have the greater number desirable kinds. On the other hand it might result in the opposite way and the majority might be inferior sorts. There is always interest in taking chances, and I often let a seedling grow up to see what it will come to. I have never had one superior to named sorts, but have had very good fruit from some and some not very desirable. If a question of trees for family use or orchard, I should set out named kinds. Nurserymen do not set large quantities of seedlings in the sense you mean. They set thousands of them, but they are for budding. The seedlings are set in rows as soon as they are well above ground in Spring. By September they are fit to bud. No one grafts them. The Spring following budding the tops are cut off to just above the bud, which is, generally, just above ground. By Fall there is a nice one-year tree for sale. Currants are propagated from cuttings of the past season's wood. Make them about nine inches in length, and set them out doors early in Spring. If made and planted in early September they root readily, often by the time Winter comes.

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Horticultural Notes.

Staking Fruit Trees.—After planting a fruit tree see that it gets a stake if it wants one. Many of the leaning over orchard trees are evidence of bad management in this respect.

Lily of the Valley.—When one has an open woods, the lily of the valley may be made a permanent occupant of it by planting it there. The plants are soon at home, and come up every year thereafter.

Variegated Plants.—What are known as variegated plants, weeping trees and other abnormal forms, known as varieties, rarely come true from seed. Many experiments in this line prove that but few come of like odd character, but are of the original type.

Arbor Vitae.—Among arbor vitæs the globe-like forms are very useful for planting near dwellings. Some of them are of such slow growth that they add but an inch or two a year. Some are golden tinted, others change to a bronze color in autumn.

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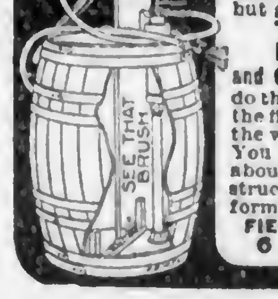

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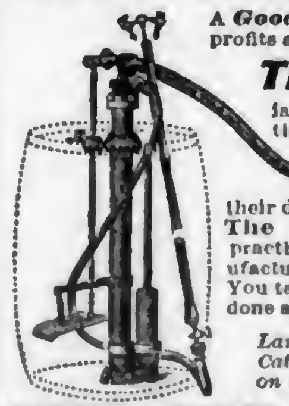

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Azaleas. — The beautiful azaleas which are so much admired for their use in decorating churches and homes at Easter time, are not hardy in the latitude of Philadelphia, except one, the old single white. This lives out without protection, in sheltered places.

Frozen Trees. — Trees received in a frozen state, whether in bales or boxes, should be placed in a cool, shady place free from air, where they may thaw out gradually. Exposure to heat and light when in this condition kills them. To bury them up completely in a heap of soil for a few days is a good practice.

POULTRY.

This department is under the editorial charge of A. F. Hunter. All letters, inquiries and requests should be addressed to him at the Practical Farmer office, P. O. Box 1317, Philadelphia.

Feed a Variety.

A correspondent in Western Pennsylvania takes exception to our statement that corn is not a complete food for fowls and says he feeds it regularly and that the fowls seem to like it. That is quite probable and yet the corn not be a satisfying ration, because it contains an excess of carbohydrates and is low in protein. Our friend will find the idea excellently well expressed in Mr. Terry's Health Hints on the first page of the P. F. for Dec. 20th. In that paper Mr. Terry answers a farmer's wife, who says she don't take any stock in his statement that a person can be full and still half starved, because she practically made her supper of baked potatoes with butter and salt on them, and was fully satisfied. Mr. Terry goes on to explain that a person weighing 140 pounds would need 4.2 ounces, of protein per day and to get that quantity from potatoes, butter and salt would have to eat over half a bushel of potatoes per day! Rather "a stunt." And think what a condition the person would be in which such an overplus of starch in his (or her) system would mean. That is the great difficulty with such ill-balanced rations. Our friend's corn is rich in carbohydrates, and in eating sufficient corn to supply the cravings of the system for the various food elements the fowls would become gorged with fat. For that reason corn is a costly food, just as the woman's half bushel of potatoes a day would be. Far better feed a variety of grains, and especially a supply of "roughage" to balance the ration; and that one argument, of its being cheaper, should satisfy our friend. Corn is an excellent food if it is "balanced" by other foods, and there is no grain that makes so rich eggs as corn, but it should not be the exclusive food any more than potatoes should be the exclusive food of men and women. A very good addition to the ration is wheat bran, which goes far to bring up the balance, and if our friend will feed a cooked mash of equal parts by weight of corn meal, wheat bran and finely cut clover hay, with ten per cent. meat meal added, he will make up a good winter ration for his fowls. A still better balanced ration is given in the Poultry Column of that same December 20th P. F., and one which it has been proven is a good ration for making eggs. If you want the fowls to lay eggs in winter don't neglect the animal-food part of the ration. In summer a flock of fowls running at large about the farm buildings pick up quantities of worms, bugs, insects, etc., but in winter this important supply of meat food is cut off by the worms, insects, etc., retiring into the ground, and the fowls can find none. It is then that we must supply a substitute if we would have eggs. Some farmers have bone cutters, and get a few cents' worth of fresh bone of the butcher a couple of times a week, and cut it up for the flocks; it makes a perfect animal food and is much enjoyed by the fowls. Romaine's "B. B. & B.," or beef scraps, which can be bought of dealers in poultry supplies, are perfect meat foods, and can be added to the mash as recommended above. Don't expect the fowls to lay eggs unless you give them, in the food, the materials of which to make eggs; and it certainly pays to do that this winter, with the prices that eggs are selling for. It is true that grain is high, but the high price of dressed poultry and eggs counterbalances that, and certainly there is profit in both this winter. And these good prices for poultry and eggs bid fair to continue. The supply is short all over the country, and with the demand increasing both because of increase of population and high prices of other food supplies, there is every promise of continued good prices.

Winter Eggs.

M. M. JOHNSON.

The most successful winter poultry house I ever saw was a big open straw cattle shed. The shed had been covered direct from the stacker of threshing machine. The roof, north side and ends were several feet of straw and chaff. Some 30 head of cattle were in the shed and yards nights, and running in the corn stalks daytime; besides, there was a hog trough in the yard where the shoats got their daily slops of bran, shorts and waste vegetables.

I was a boy at home with "Dad" and "Ma" at the time. My father believed in being liberal with salt, the cattle had their salt box and all the slops for the swine was seasoned with salt. I remember that an argument was up as to whether the fowls would get too much salt at the hog troughs. Up over head in this shed were a variety of poles and brush that served to hold the straw up. Flock after flock of the early hatches took up their roosting place in the cattle shed and by cold weather the regular hen house was almost entirely deserted. Some 150 hens, mostly early pullets, were roosting in the cattle shed by Dec. 1st, and the daily output of eggs was from five to eight dozen, and it continued all winter. When the weather got colder and stormy days came, the cattle were fed, in racks, clover and timothy hay and millet hay, corn fodder, etc. The cattle were continually working down some of the straw shed, and finally the shoats went to sleeping in the litter. The old straw shed seemed to be the home for most everything that could get into it. Even the flocks of quails made daily visits and worked with the hens in and around the yard and shed. I do not remember a single ailing fowl all winter and when spring came, they were bright and ready to hunt in the nearby grove and orchard. At the time, I looked at all these things as a "matter of course;" but since I have grown older and read and listened to up-to-date methods, scientific ventilation, jim-crack feeds and sanitary poultry houses, my mind wanders back to the old straw shed, its simplicity and its success. I have finally made up my mind that lots of up-to-date poultry theories are more theoretical than practical, and that if it was possible for all poultry raisers to have an old straw shed, that chicken doctors and remedies would not be so popular as they are. I am a firm believer in lots of litter for fowls to work in, also a variety of feeds and unlimited pure air. Still more, I believe fowls should have plenty of salt and water. Stop and think of it, an egg is nearly 80 per cent. water; the hens must have water in abundance and unlimited exercise and pure air. Yes, salt will kill fowls, and it will kill stock, too, but it will kill nothing if it has been managed carefully. Sunshine and pure air were made for fowls as well as other life, and while it is so cheap why be stingy with it? Straw, chaff, leaves or other kinds of litter are enjoyed by hens just as much as a pond of water is by ducks. The water may not do the ducks any particular good, but plenty of dry litter does the hens good; the scratching in the litter keeps the hens warm and healthy; besides, the litter absorbs the moisture and keeps the ground or floor under it warm. In building poultry houses we should study the hens more and ourselves less.

Clay Co., Neb.

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Handy Almanac.—The Hood Farm Almanac is the handiest we have seen. It is of a size convenient to carry in the pocket, and contains a mass of information which can be put into daily use on the farm and in the home.

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An Announcement to P. F. Readers.—Every reader of the P. F. who is ailing or has poor health or has some friend or relative that is sick, should be interested in the offer on another page headed "Personal to Subscribers," made by the Theo. Noel Co., of Chicago, Ill. This company is the proprietor of the famous Vitae-Ore, a natural mineral medicine, which they offer to send out on thirty days' trial to every ailing person who requests it and will promise to use it carefully according to directions. Many readers of this paper have already used this medicine and can testify to its merits, but those who have not should not fail to avail themselves of the exceedingly liberal offer made by the Theo. Noel Company. The company is reliable, have what they claim, and will do as they promise. Mention the P. F. in writing to this company.

AN OBJECT LESSON
In a Restaurant.
A physician puts the query: "Have you never noticed in any large restaurant at lunch or dinner time the large number of hearty, vigorous old men at the tables; men whose ages run from 60 to 80 years; many of them bald and all perhaps gray, but none of them feeble or senile?"
Perhaps the spectacle is so common as to have escaped your observation or comment, but nevertheless it is an object lesson which means something.
If you will notice what these hearty old fellows are eating you will observe that they are not munching bran crackers nor gingerly picking their way through a menu card of new fangled health foods; on the contrary they seem to prefer a juicy roast of beef, a properly turned loin of mutton, and even the deadly broiled lobster is not altogether ignored.
The point of all this is that a vigorous old age depends upon good digestion and plenty of wholesome food and not upon dieting and an endeavor to live upon bran crackers.
There is a certain class of food cranks who seem to believe that meat, coffee and many other good things are rank poisons, but these cadaverous, sickly looking individuals are a walking condemnation of their own theories.
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The Practical Farmer.
FOUNDED IN 1855
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PROF. W. F. MASSEY, Editor.

Philadelphia, January 24, 1903

AT the Nebraska Station steers fed in box stalls made an average gain of 400 pounds on the same food that steers of equal value made 330 pounds gain in open shed and lot, four of the stalled steers made gains of 444 pounds each. It would not take a great many steers at this rate to pay for stables in the additional gain, and the lumber would be there for many years helping the food. Shelter pays and in the long run is far cheaper than feed, that must be used in its place to keep animals warm without profit to the feeder.

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THE Maine Experiment Station has been examining some of the cereal foods now so largely advertised and sold, and while in a general way these have been found good and wholesome the Station ridicules some of the claims made for them. It is claimed that "The system will absorb a greater amount of nourishment from one pound of Grape Nuts than from ten pounds of meat, wheat, oats or bread." The analysis of the Station shows that the one pound would contain 0.12 of a pound of protein, while ten pounds of bread would contain 0.80 of a pound of protein, and ten pounds of rolled oats would contain 1.50 pounds of protein. The fuel value of the Grape Nuts would be 1,870 calories, and that of the oats 19,650 calories. Tèn pounds of rump beef would have, including the bone, 14,050 calories. The bulletin concludes that as the average consumer will have no difficulty in digesting any of the cereal foods it is not worth while to pay 20 cents for one cereal preparation when another that will serve his purpose equally well can be had for 5 or 6 cents.

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Crop Estimates.

The London Standard criticises the methods of crop estimation in the United States, saying that the agricultural estimates of the Census Department are always excessive, while those of the Agricultural Department are below the mark, and adds: "If America would deign to copy the method of British agricultural returns, they might reach satisfactory results. Nothing short of a farm-to-farm return, at least as to the acreage of crops, is to be trusted." Such a method may be all right in the limited area of Great Britain, but a farm-to-farm estimate in the United States would tax the country as badly as a general census. It is what the census attempts, but is hard to carry out accurately even then, because the enumerators are selected not because they are the best and most skillful men for the purpose, but because they belong to the party at the time in power, and are given their places for party services. Until the Census Department is entirely removed from party politics and men are put at this statistical work because they are the best men for it, there will be little improvement. The methods of crop estimation adopted by the Secretary of Agriculture are as accurate as it is at present possible to make them, and the larger part of the complaints of underestimating the crops come from the English buyers of cotton, who would like to keep prices down. We are of the opinion that when the present crop is all in the estimate of the Department will not be found far wrong, when we allow something for the unexpected late crop that the last favorable autumn made possible. When we read criticisms of the Department work we had better consider who it is that is criticising it, and the interests that are behind them.

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The Agricultural Department.

It is about time for the farmers to begin writing letters to their Congressmen again. The farmers' letters had a great deal to do with the passage of the oleo bill. When Congressmen understand what the farmers want they generally get it. The Committee of the House of Representatives has cut down the appropriation for the new buildings for the Department of Agriculture to $1,500,000 after the Senate had passed it for a million more. And yet they endorse an appropriation of $7,000,000 for the Department of Justice. With uncounted millions spent for War and Navy Departments, the great Department of Peace is quartered in a little building, and the Secretary has to rent dwelling houses all around the neighborhood. The agricultural interests of this country are second to none and the Department that is working for the farmers should have as commodious quarters as any other in the capital of the Nation. The Nebraska man at the head of the House Committee should have broader ideas in regard to the farming interests. Drop in a few letters on the members of the House and tell them that the Farmers' Department should be as well housed as the soldiers and sailors.

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Station Work.

The report of the Director of the Pennsylvania Agricultural Experiment Station shows, as the reports in other States do, that the work of investigation is seriously impeded by the other duties imposed upon the Station staff in the work of instruction at the College, attendance and lecturing at Farmers' Institutes and in the college extension work. The time is coming when those in control of the colleges must realize that this division works injury to the efficiency of the Station. While the colleges divide the salaries of the men engaged in college work with the Stations, it does not make them more than one man each, and we have the highest authority for saying that no one man can serve two masters effectively for both. The work, as Dr. Armsby says, in the college, must be done at fixed times, no matter what becomes of the Station work in the meantime, and when either suffers it must be the Station work. Then, too, in the great State of Pennsylvania, we are told that the Station building has to furnish quarters for several of the college instructors, and laboratory room for students in agricultural chemistry, while light, heat and power for all the buildings have been supplied from the Station steam plant. It would seem that the State is rich enough to heat and light the college buildings without begging these from the limited income of the Station. Like almost every Station, the Pennsylvania Station finds that it is saddled with a salary list that leaves a balance too small for the most effective work in investigation. While Pennsylvania has given money for the erection of buildings for the Station she has given nothing for current expenses, over 63 per cent. of which comes from the United States and the remainder from fees and incidental sales. In some other States, notably in Louisiana, the State has more than doubled the United States appropriation. In New York the two Stations have an income of over $103,000. The only thing to wonder at, then, is that the Pennsylvania Station has done as efficient work as it has. And the same may be said of numbers of other Stations throughout the country. The Stations have proved their value to the agriculture of the country and not only Congress, but the State Legislatures, should come to their aid and put them in a position for doing well the work they are intended to do and relieving them of the work that belongs solely to the colleges and the State Departments of Agriculture.

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Fining the Soil.

The great success that has followed the cultivation of grass for hay by Mr. Clark, of Connecticut, shows not only the great value of the proper fertilizing matters properly used, but still more the importance of working and reworking the soil, exposing every particle of the surface soil to the action of the air, and thus getting plant food made available for the crop when planted. Mr. Clark says that he worked his garden soil over twenty-five times before planting a seed, and thought that it paid to do so. With a heavy clay soil there is nothing that gives better chance for a good crop than the most thorough preparation. For two years or more we have been experimenting on a piece of typical "Cecil" red clay in part of our large garden. Our garden of nearly two acres, runs north and south over a ridge. On the south side the red clay is covered by a deep, mellow, sandy soil. On top of the ridge the greasy red clay comes right to the surface. On the north slope the red clay is buried in a dark, heavy, brown loam, and down at the bottom terminates in a strong, deep and almost black soil. This last stands drought better than any other part of the garden, and is fine for late crops. The first sandy soil is our early garden. But the clay ridge has been a terror. It is very fertile, but runs together and bakes very hard in summer and we have been trying to mellow it. Two years ago we manured it in the fall and sowed crimson clover on it and had a great growth. We then plowed it and manured again and hauled wash sand all over it, and planted it in cabbages and got a fair crop. Then it was again manured and plowed, and when some natural growth appeared it was covered as deeply with forest leaves as we could plow under, and was again plowed. This fall a very heavy growth of chick weed covered it and a week or so ago we plowed all this under and will again cover it with forest leaves and lime it, and plow again for sweet corn, leaving it rough until planting time. We then intend to plow again and then harrow time and again. Now the character of that clay is sensibly changed. It no longer turns up in greasy flakes, but is getting to be of a dark brown color and not the blood red that it was. This is the result not only of the large amount of vegetable matter we have worked into it, but the repeated plowings followed by frost. Now, on a large scale, it would hardly be practicable to treat a clay soil in exactly this way, but what we want to point out is that on such a soil with heavy crops of dead peas and other vegetable matter plowed under in the fall and at once followed by a green winter crop like rye, the character of the soil can be greatly modified in a short time, particularly if the burying of the organic matter is followed by repeated plowings to bring again the rotted buried matter to the surface, where it will have the best effect as a mulch. One of the greatest advantages, as we have said before, in deep fall plowing, is in getting a winter cover crop on the land so that another plowing is essential in the spring before planting. Then in the spring use the disk or cutaway thoroughly and repeatedly to get a fine surface bed that will act as a mulch in retaining the winter moisture for summer crops, and then keep that mulch there by rapid and shallow cultivation, and you can defy a drought, especially on a clay soil.

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The Cream of the Bulletins.

University of Nebraska, Agricultural Experiment Station, Lincoln, Neb. Feeding Experiments with Cattle and Pigs. E. A. Burnett and H. R. Smith. Bulletin 75, Vol. XV.

The first experiment given was alfalfa vs. sorghum for wintering calves. In October, 1900, 18 steer calves were bought, and also two heifers. They were grades from pure bred sires of Shorthorn and Herefords, and an equal number of each breed were used. When received they were placed on clover and grass pasture and after the middle of October had a grain ration, half corn, one-fourth bran and one-fourth oats, which was gradually increased till by November they were eating two and a half pounds each per day. On October 19th they averaged 339 pounds weight each. In November they had alfalfa hay and an increased grain ration, and by the last of the month they were eating 5 pounds and weighed 7,425 pounds. The first of December they were divided into three lots of six steers each. One lot of Shorthorns and one lot of Herefords received alfalfa hay and the grain ration. The third lot of Herefords had sorghum hay and the same grain ration. The grain ration was increased from five pounds to eight pounds. The hay ration was six pounds. The average gain on alfalfa and grain was 240 pounds. The average gain on sorghum hay and grain was 218 pounds, showing that the alfalfa gained over sorghum 22 pounds per calf in five months. The next experiment was grain vs. no grain for steers on pasture. This experiment showed, without going into details, that when steers are to be marketed in the fall or early winter there is more profit in summer feeding with grain on pasture. Where steers are to be winter fed on grain for the spring market there is more profit to feed no grain when on pasture. The failure of the corn crop of 1901 made the market for feeding-steers very bad, and destroyed the profit that would ordinarily have been produced on a bunch of cattle making 292 pounds gain in six months on pasture only, but the subsequent winter feeding was very profitable and warranted placing a higher value on these steers as feeders. The high price for fat cattle enabled the Station to sell the grain fed cattle at a profit even after having fed them on corn worth 40 cents a bushel during the summer. Wheat vs. corn as a ration for fattening steers was the subject of another experiment, and the conclusions were that the gains in a lot fed on a wheat ration were greater than those in another lot fed corn, by 16 pounds per head, in 23 weeks. Another lot fed a wheat ration exceeded a lot fed corn, in gains, by 22 pounds per head. The one experiment is not considered conclusive evidence that wheat exceeds corn in feeding value, but indicates that wheat exceeds corn in feeding value about 5 per cent. It shows that a six-months feeding period was more profitable than a twelve-months one. The experiment showed a profit of $10.14 per head on summer fed yearling cattle compared with $19.63 on cattle of the same quality which were on grass only during the summer. Taking a statement for the year, the cattle fed twelve months show a profit of $15.49 against a profit of $21.64 on the cattle fed grain only during the winter. The experiment showed, too, that hogs will make good gains following steers fed on ground feed. Another experiment was a comparison of shelter and rations in feeding steers. The results were that six open shed and pen steers made 330 pounds average gain. Six box stall steers made 400 pounds average gain. Six open shed and yard steers made 315 pounds average gain. In this experiment corn meal and alfalfa in box stalls gave the largest gains. Corn meal, bran and alfalfa in box stall made the next largest gain. Corn meal, bran and alfalfa in open yard and shed came third. All the very large gains were made by steers in box stalls. In another experiment it was found that wheat can be profitably substituted for corn in feeding pigs so long as wheat is not more than nine per cent. higher than corn. Wheat should be soaked or ground for pigs.

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for 1903 is free to all interested in gardening who mention this paper. If you want an up-to-date garden you ought to have it, the best seed catalogue I have ever published. The first edition alone costs over $37,000. Address
WM. HENRY MAULE, PHILADELPHIA, PA.

Help It Grow.

We hope that every one of our friends who received a club blank in their last week's copy of the P. F. will try to make up a six-name club, using the blank for that purpose. Particularly do we want our friends whose subscriptions expire this month or in February to each one send one of these clubs, including their own renewal in it. There are several thousand subscriptions which expire in these two months, and a club of six from each of them would mean a boom in our subscription business which would be acceptable all around. We are more than pleased with the way in which these clubs are coming in. Our friends are doing nobly, and every club they raise increases our ability to carry out the plans which we are constantly making for the improvement of the P. F. These plans contemplate betterments all along the line, necessitating increased expenditures for their carrying out. We intend the P. F. shall remain at the head of the procession of agricultural journalism. We want the help of all our friends to increase its circulation, both to widen its influence and still further increase our ability to make every number of the paper better than the preceding ones. There are millions of farm homes in the United States. We thoroughly believe that the weekly visits of the P. F. to each one of these farm homes would mean an increase of many dollars in the yearly income from each farm, aggregating many millions of dollars additional profit to the farmers each year. Now the present subscribers of our paper can help much towards such a desirable consummation. They live in all parts of the United States, so that the field for work is co-extensive with its boundaries. At thousands of postoffices where perhaps only a single copy of the P. F. now goes, or at the most two or three copies, not one club, but several of these clubs of six might be raised. While we should like every friend to send at least one club, we do not by any means wish it understood that that is the limit. In many localities it is just as easy to make up several clubs as only one, and as we give a choice of one of thirteen premiums for each club to the club raiser, there is a suitable reward for several clubs. And remember that these clubs of six is the only way by which the P. F. can be obtained for 50 cents per year. In any other way 50 cents pays for only six months and $1 pays for one year. It ought not to take very long to convince every wide-awake farmer that 50 cents invested in a year's subscription to the P. F. will bring back more than the entire year's subscription in every single copy of the paper. We want our paper to go into the homes of as many of these millions of farmers who do not now read it, as it is possible. Our friends can help us very decidedly to do this, and knowing the high regard in which they hold the paper we have no hesitancy in asking their help.

Our Best Combinations

The P. F. . . N. Y. Thrice-a-Week World	$1 $1	1.25
The P. F. . . Philadelphia Weekly Press	$1 $1	1.25
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The P. F. . . Breeder's Gazette .	$1 $2	1.90
The P. F. . . Chicago Weekly Inter-Ocean	$1 $1	1.25
The P. F. . . The Commoner. .	$1 $1	1.50

COMMERCIAL

Philadelphia, Jan. 17, 1903.

WHEAT.—

The market ruled firm under light offerings and stronger Western advices and prices advanced ¼@½c. Cables, however, were unsatisfactory and exporters showed little interest. The world's visible supply, as compiled by Bradstreet's, showed a decrease of 3,598,000 bushels.

No. 2, red	78	@	78¼
No. 2, Penna. and Del.	79	@	79¼
CORN.—			
No. 2, yellow	53	@	53½
OATS.—			
No. 2, white clipped	41	@	42
BUTTER.—			
Best prints	29	@	30
Firsts, creamery	28		
Seconds, creamery	26	@	27
Ladle packed	17	@	20
CHEESE.—			
Full cream, choice, small	14	@	14¼
Full cream, fair to good	13½	@	13¾
Part skims	10	@	12

LIVE POULTRY.—

Supplies were small and the market ruled firm, with a fair demand for desirable stock.

Fowls, per lb.	12	@	13½
Spring chickens, per lb.	12	@	13
Ducks, per lb.	14	@	15
Geese, per lb.	12	@	14
Turkeys, per lb.	14	@	15

DRESSED POULTRY.—

Receipts were moderate and the market ruled firm, with a fair demand for desirable lots of all descriptions.

Fowls, per lb.	11	@	13
Chickens, per lb.	12	@	15
Turkeys, per lb.	15	@	19
Ducks, per lb.	13	@	17
Geese	11	@	14
EGGS.—			
Nearby fresh	32		
Western, choice	31		
FRESH FRUITS.—			
Apples, per bbl.	1.50	@	3.00
Cranberries, Jer., per crate	3.00	@	3.50
Cranberries, Cape Cod, bbl.	10.00	@	12.00
Oranges, Jamaica, bbl.	4.00	@	5.00
Oranges, Fla., per box	2.65	@	3.35
Grape fruit, Fla., per box	3.00	@	4.00
VEGETABLES.—			
White potatoes, Pa., per bu.	68	@	70
White potatoes, West., bu.	60	@	68
Sweet potatoes, Jer., bas.	60	@	65
Cabbage, per ton	5.00	@	8.00
Onions, per bbl.	1.75	@	2.00

BEANS AND PEAS.—

There was a fair demand for beans, and the market ruled steady under moderate offerings. Green peas were unchanged.

Marrows, H. P., per bu.	1.75	@	2.70
Scotch Peas, per bu.	1.70	@	1.75
HAY AND STRAW.—			
Timothy, choice, large bales	20.50	@	21.00
Straw, straight rye	15.50	@	16.50
Straw, tangled	10.50	@	12.00
Wheat	10.50	@	12.00
Oat	9.50	@	11.00

FEED.—

Feed was in fair demand; light offerings.

Bran, bulk, winter, per ton	19.50	@	20.00
Bran, sacked, spring	19.50	@	20.00
COTTON.—			
Middling upland, cwt.	8.85		

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle steady to a shade easier.

Extra steers	5½	@	5¾
Good steers	4¾	@	5¼
Medium steers	4½	@	4¾
Common steers	4¼	@	4½

CALVES.—

Veal calves firm and active.

Extra calves	9	@	9¾
Fair to good	7½	@	8¾
Poor and common	5½	@	7
Grassers	3½	@	5½

HOGS.—

Hogs active.

Fat hogs, Pa., Del. & Md.	6¼	@	8½
Fat hogs, Western	8¾	@	9½

SHEEP.—

Sheep and lambs steady.

Sheep, extra wethers	4½	@	4¾
Sheep, good	3¾	@	4
Sheep, medium	3	@	3¼
Sheep, common	2¼	@	2¾
Lambs	4½	@	6½

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New York, Jan. 17, 1903.

WHEAT.—			
No. 2, red	80½	@	81⅛
No. 1, Northern Duluth	86¾		

CORN.—

The market is strong. Demand good.

No. 2	58	@	60
No. 2, white and yellow	58½		
OATS.—			
No. 2, white	42¾		
HAY.—			
Prime, large bales, 100 lbs.	1.05		
BUTTER.—			
Creamery, extra	28		
Creamery, firsts	26	@	27
Creamery, seconds	24	@	25
State dairy, tubs, fancy	26		
CHEESE.—			
Full cream, small	14	@	14½
Full cream, choice	13½	@	13¾
Light skims, small, choice	12	@	12¼
Light skims, large, choice	11¼	@	11¾
LIVE POULTRY.—			
Ducks, per pair	80	@	1.00
Geese, per pair	1.50	@	1.62
Fowls, heavyweights, per lb.	14		
Turkeys, per lb.	14	@	15
DRESSED POULTRY.—			
Spring turkeys, per lb.	13	@	18
Spring chickens, per lb.	15	@	24
Spring geese, per lb.	10	@	12½
Fowls, good to prime, per lb.	11	@	13
Squabs, poor to prime, doz.	2.00	@	3.50
EGGS.—			
State and nearby	25	@	33
Western	20	@	29
GREEN FRUITS.—			
Apples, per bbl.	1.25	@	4.00
Cranberries, per bbl.	9.00	@	12.00
Cranberries, per crate	2.50	@	3.25
Grapes, per case	1.00	@	1.50
Grapes, per bas.	10	@	15
Oranges, Florida, per box	2.25	@	3.75
POTATOES AND VEGETABLES.—			
Potatoes, Jer. per bbl.	1.75	@	2.00
Penna. & Western, 180 lbs.	1.85	@	1.90
Sweet potatoes, per bbl.	2.25	@	3.75
Celery, Western, doz. bun.	75	@	1.00
Onions, per bbl.	1.50	@	5.00
Cauliflowers, per crate	2.50	@	3.25
Turnips, per bbl.	90	@	1.00
Spinach, per bbl.	75	@	1.25

AGRICULTURAL FERTILIZERS.

AMMONIATES.			
Nitrate of soda, per cwt.	2.05	@	2.10
Sulphate ammonia, per cwt.	2.05	@	2.07½
Tankage, per unit ammonia.	2.57½	@	2.65
PHOSPHATES.			
Acid phos., 12-16 p. c., unit.	55	@	60
Bone black, spent, 1,000 lbs.	16.00	@	17.00
Ground bone, steamed, ton.	19.50	@	20.50
Ground bone, raw, per ton.	21.00	@	23.50
POTASH.			
Muriate potash, 80 p. c., future shipment	1.80		
Manure salt, high grade (90 to 95 p.c. sulphate potash)	2.08		
Manure salt, double (48 to 49 p. c., less than 2½ p. c. chlorine), per lb.	1.09		

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OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.	
XX and above	30@32
X	27@29
Medium	30@32
Quarter blood	29@30
Common	26@28
UNWASHED (light and bright.)	
Fine	19@22
Medium	22@23
Quarter blood	22@23
Coarse	19@21
UNWASHED (dark colored.)	
Fine	15@16
Fine medium	16@18
Medium and quarter	18@19
Coarse	16@18
COMBING AND DELAINE FLEECES.	
Washed fine Delaine	32@34
Washed medium	30@32
Washed low	29@31
Washed coarse	27@28
Unwashed medium	23@25
Unwashed quarter blood	23@24
Braid	20@22

$20 A WEEK Straight salary and expenses to men with rig to introduce our Poultry Mixture in country; year's contract; weekly pay. Address, with stamp, Monarch Mfg Co., Box 1129, Springfield, Ill.

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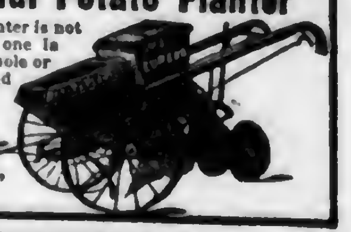

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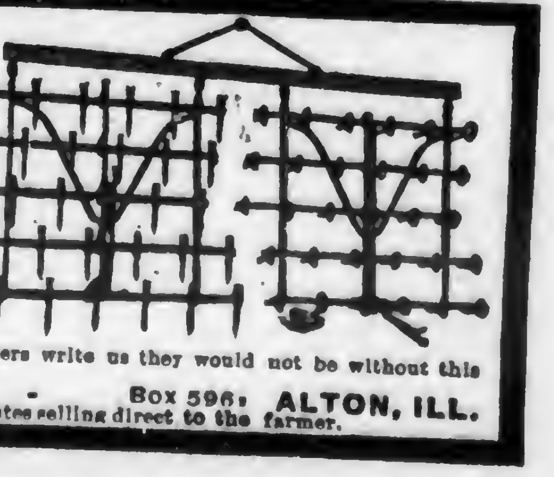

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Rest.

H. S. W.

Oft in the burden of the busy day,
  In the repose of evening's shadowy gloom,
Often at midnight's still and holy hour,
  Come to my mind fond memories of home.

O, happy childhood, with what longing eyes
  Back through the intervening years I gaze!
How ardently I long to tread once more
  The sunny pathway of thy golden days.

Is there no more a comfort for my grief?
  No heart to beat in sympathy with mine?
No hand to soothe my lone and weary heart,
  So tenderly, dear mother, as did thine?

Ah, in my heart I hear a voice divine,
  More tender far, than human voice could be;
"Come thou who art afflicted and oppressed—
  With all thy heavy burden, come to Me.

"As when a child thou fled to mother's arms
  And weeping, on her bosom sought for rest,
Bring unto Me thy load of grief and wrong,
  And lay thy weary head upon My breast."

Lewisville, Ind.

Editorial Chat.

If "A Mother," Mt. Hope, Va., will send her name and address, on a card, to Mrs. J. M. Dick, Penn Run, Pa., she will greatly oblige the latter.

* * * * * * * *

Such hosts of our people seem interested in the different societies—Shut-In and Sunshine, and yet there seems a general misunderstanding. A Maine sister sends material relative to the Sunshine Society from which we glean the following: The originator of the society was Mrs. Cynthia Westover Alden. Just when started we do not learn, but it was incorporated in February of 1900 as the International Sunshine Society. Over 200 papers, led by the Ladies' Home Journal, now regularly report the work.

To the questions so often asked, "How did the Sunshine Society originate?" "What is its object?" "What has it accomplished?" and "How do you do the work?" the following answers are made. During the holidays several years ago, the President-General was the recipient of a number of cards from her co-workers on the New York Recorder, as well as from outside friends. On Christmas Day she protested, and said that, while she enjoyed her gifts, she would have had infinitely more pleasure in their receipt if the donors had not written their names on them. This statement horrified her audience, who with one accord exclaimed:

"What! You wouldn't give our presents away, would you?"

"Why not?" was the answer. "What do you do with yours?" A laughing investigation soon developed the fact that the waste-basket was the ultimate destination of most of the cards received. Some spent a few months tacked on the wall, until fly specked and discolored; others were used as book-marks until lop-eared; then all were thrown away without giving an additional ray of sunshine to anyone beyond the recipient.

"Suppose you take the history of one pretty ten-cent card that came to me a year ago," said the President-General. "It had an exquisite little poem on it, and I enjoyed it so much that I thought at once of an old uncle who would appreciate it, and forwarded it to him. He, as I thought he would, did enjoy it, and so much that he immediately recalled another old friend to whom it would appeal with special force. So he copied the poem and sent the card on. This recipient found the sentiment so sweet that she, too, felt called upon to pass it on, and before the seven-days' holiday was over the card had carried its Christmas message to six different people. Of course, this is an exception, but still it is an example of the infinite possibilities of a gift if accepted in the true spirit and then passed on, giving each one the double delight of receiving and giving."

The cards which had afforded the text for the little sermon were then spread out and their possibilities discussed. Here was a dainty one, with a great cluster of royal purple pansies. "Mrs So-and-so loves pansies," and it might have been sent on to her if it hadn't been marked all over. Again, a group of cunning little pussies that "would have been just the thing for a little invalid child who needed amusing," but that, too, was carefully marked with the name of the sender, and thus spoiled for the passing on.

Inspired with this idea of sending out remembrances that might be multiplied fourfold, a new set of cards was given by the staff to the President-General, who immediately sent them all out again. The thanks received for these cards were so pretty that an item was made of it in the paper. This caused further correspondence, and resulted in a club for the exchange of friendly greetings. The name "Chat" was at first chosen for the column, but in time the membership grew so large that a club badge and the motto "Good Cheer" were selected, and the name "Shut-In" given to the society.

On January 15, 1896, the name of the society was changed to the Sunshine Society.

This change was made because of conflict with a shut-in society organized in 1884. Changing the word Shut-In to Sunshine did not interfere with the club motto or pin.

The object is to incite its members to a performance of kind and helpful deeds, and to thus bring the sunshine of happiness into the greatest possible number of hearts and homes. Its active membership consists of the people who are desirous of brightening life by some thought, word or deed.

The floral emblem is the coreopsis.

The membership dues consist merely in making some suggestion that will bring sunshine to others.

The reader who kindly furnished the above adds: "Perhaps the sister from Good Dale Corners belongs to the Shut-In Society established in 1884. The Sunshine Society is what the invalids of today need, as there are many worthy ones who cannot afford the fifty cents per year necessary to belong to the Shut-Ins, but who can 'scatter sunshine' in other ways." From the same source we have the names of all State presidents, so if any of you wish to communicate with yours we will gladly furnish the name.

* * * * * * * *

Ellen Kinney wishes to thank all the friends who helped make sunshine for her on Christmas Day, as it has not shone before in all the dreary years of her invalidism.

Sacques and Bootees.

"EXPERIENCE."

It is never safe to send baby's fluffy sacques and bootees to the laundress, as she will, in nine cases out of ten, entirely ruin them. If not very much soiled, they can be cleaned by shaking into them dry corn meal then rolling them up and letting remain a few hours. Rub them lightly in the meal and then shake it out. If not too much soiled they will come out clean and nice. When much soiled, prepare a warm Pearline suds and put the garments in it, shaking them about and squeezing them in the hands until the dirt is removed. Do not rub or wring them, as it mats the fibre of the wool. Put them through a rinse of clear, warm water and squeeze out, then shake well and pull into shape before drying in the open air. Shaking occasionally while drying will render them more fluffy. If the garments are blue or white it is well to use a very little bluing in the rinse water, but care must be taken to use only a good quality that will not spot or streak. An excellent bluing may be very cheaply made at home by dissolving one package blue diamond dye for cotton (the dye only) in one quart of boiling water. Strain and bottle. Use the same as other liquid bluing. Never use bluing if the garments have any red or pink in them.

Ice Wool Fascinator.

MABEL KRESKY KNOER.

Chain 4, join in a ring. 1st row.—Chain 3, fasten in first stitch of 4 chain. Repeat until you have a chain of 3 fastened in each stitch of ring. This is the beginning of four distinct corners which must be kept perfect or the shape of the fascinator is destroyed. 2nd row.—Chain 3, fasten in second stitch in 1st chain of 3 in 1st row. Chain 3, fasten in same stitch again. This extra chain forms the widening for the fascinator, which must be repeated at the same place in each corner every row. To finish 2nd row chain 3, fasten in second stitch of 2nd chain in 1st row. Widen. Chain 3. Fasten in same stitch as preceding chain and so continue around. Repeat the series of loops, widening at corners as directed, until you have 24 rounds.

Border.—Chain 1, wind the wool loosely 7 times around the index finger, put hook under wool on finger, drawing stitch through and fastening on top; slip off from finger, fasten through ring again with another stitch, drawn tight so as to hold the ring together. Chain 1, fasten in 2nd stitch of 3 chain, chain 3, fasten in centre of next chain. Chain 1, make another ring and repeat, with alternate chains of 3 and rings, until you have a row of rings around the fascinator, making an extra ring at each corner, or make the work come out so there is a ring directly at each corner, even if you do have to make three rings in succession.

2nd row.—Chain 3, fasten in top of ring, chain 3, fastening in 2nd stitch of 3 chain in first row of border. Repeat the chain 3 fastening in ring and chain 3 fastened in 1st row of border until 2nd row is finished. Always widen at the corners same as in body of fascinator. 3rd row.—Chain 10, fasten in 2nd stitch of 3 chain in previous row; repeat, widening with a chain of 18 at each corner, the same as with the chain of 3. 4th row.—Chain 3, fasten in centre of 18 chain, repeat, until all chains are connected. 5th row.—Like 1st row of border. 6th row, like 2nd row. 7th row.—Chain 18, fasten in preceding chain of 3 as in 3rd row. Repeat. This last row forms a fluffy edge to border. After the fascinator is finished, pin securely to a sheet with each separate loop drawn out and fastened; then press with a hot iron over a damp cloth. The looser the work is done, the prettier the fascinator.

Our Book Table.

J. E. Elliott, Berwick, Pa., gives us a "novelty" in the following free translation into verse of an old French fable. There is a lesson in it, too, for some of us at least.

FICKLENESS.—A FABLE.

One day, in Jersey's largest town,
  Miss Novelty made her debut;
Both lads and lasses gathered round
  Shouting, "How pretty and how new!
"Oh, fair Miss Novelty, abide—
  Live in our town—we'll thee adore;
We swear, no matter what betide,
  To sing thy praises evermore."

"My friends," the goddess cried, "my heart
  You touch; next day I'll meet you here."
They saw with sorrow her depart,
  And nothing could their bosoms cheer.

Next day she came in youthful pride—
  O, she was beautiful to see!—
But with loud voice they madly cried:
  "How commonplace and old is she!"

'Tis thus our fickleness is shown—
  Our friendships ah a bitter cheat.
Our friends—just ere an hour has flown—
  We cast aside and new ones greet.

* * * * * * * *

We have just finished reading Hawthorne's "Scarlet Letter," being obliged to confess that we never read it "straight through" before. Amid the multitude of new books, one hardly finds time to peruse the old standard authors. Their works are "so old" (Fable) but when we do get down to them we feel as—well as one might to sit down to a genuine old-fashioned Thanksgiving dinner, where there was turkey—called by its name—and plum pudding and mince pie and venison, maybe, and all those old-time "goodies" straight. Now, of course, the same ingredients may enter into the viands, but they are so "scrambled" and "dressed" and christened that a menu reads—well here is one or a part of one:

Mullagatawny Soup.
Fried Smelts. Sauce Tartare.
Scalloped Oysters. Potato Salad.
Cream Shortcake. Eclairs.
Preserved Egg Plums.
Coffee.

Or another:

Blue Points.
Canvas Back Duck.
German Asparagus. Petite Pois.

and so on.

The "Scarlet Letter" teaches much of the "times" in which the events purport to have occurred. Superstition and all its attendant evils shows out in clear light, but there is much, very much to be commended in the stern, if misguided in some instances, sense of right and wrong which actuated the people. Woman's inhumanity to woman is something to make one thank God for the progress of the years; but if sin received some of the public condemnation of our Puritan ancestors today there might be less of it. If the sentence to stand three hours on the scaffold and to wear the scarlet letter for life was severe, it was more wholesome in its teaching, more to be commended than the "get a new bonnet, join the church and go right along" policy of our time. We fail to make the "wages of sin" what they ought to be, and fail to paint the sin itself sufficiently hideous in the sight of the young. Too much kindergarten nonsense about it all. "Don't teach the children about evil and then they won't know it exists." Certainly this book is worth a leisurely perusal. In literary style it is like a rare poem, but like others mentioned of late, a trifle "long-winded" for our busy time. It is a story to put in the hands of youth—not children—and a really fine historical reference book.

A Generation Ago coffee could only be bought in bulk. The 20th century way is the LION COFFEE way—sealed packages, always clean, fresh and retaining its rich flavor.

Chimney with nobody's name on it.

Who's responsible for it?

Not MACBETH.

If you'll send your address, I'll send you the Index to Lamps and their Chimneys, to tell you what number to get for your lamp.

MACBETH, Pittsburgh.

Write for free booklet telling about the JAS. BOSS Stiffened Gold WATCH CASE The Keystone Watch Case Co., Philadelphia.

We Want Ladies in each town to send for our free catalogue of stoves, sewing machines and refrigerators. 30 days free trial. J. A. Tolman Co., 66 Lake Street, Dept 010, Chicago, Ill.

Avoid Winter Discomfitures; use Lehman Carriage and Wagon Heaters. 175,000 in use. Cost 2c. day to heat. Further particulars of LEHMAN BROS. Manufacturers, 10 Bond Street, New York.

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You can smother a cough with your hand but you can't cure it that way. Some medicines only smother coughs.

Scott's Emulsion cures them. Old coughs and deep-rooted coughs can't be cured until the inflammation which causes them has been replaced by healthy tissue.

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Send for Free Sample.

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THE "1900" BALL-BEARING FAMILY WASHER SENT FREE without deposit or advance payment of any kind, freight paid both ways, on 30 days' trial. Unquestionably greatest family labor saver ever invented. Saves time, expense, and wear and tear. Will do the family washing without boiling clothes, hand-scrubbing or back-breaking. Revolves on bicycle ball-bearings and is therefore easiest running washer ever made. Will do two hours' washing in 10 minutes. Washes blankets as well as laces, absolutely clean, and without the slightest injury.

KANSAS CITY, MO., May 14, 1902. *"I have given your washer a fair trial. It is the best washer I ever saw. It has washed our heavy blankets with ease. I washed them last spring and rubbed more than an hour, and yet they had to go through again, but the "1900" Washer cleaned them thoroughly clean. We do our washing very quick and have no tired and worn-out feeling as of old."* MRS. J. L. BANNER, 4302 Troost Ave.

It costs nothing to try. Sent absolutely free, freight paid both ways, for a trial of 30 days. No money required in advance.

Write at once for book and particulars to.

THE "1900" WASHER CO., 23 G. State St., Binghamton, N. Y.

Carriages and Harness. Our large FREE catalogue shows complete line. Send for it. ELKHART CARRIAGE & HARNESS MFG. CO., Elkhart, Ind.

Send for catalogue of CARRIAGES at factory prices. The Columbus Carriage & Harness Co., Box 122, Columbus, Ohio.

Carriages on 30 days Free Trial. Send for Free Catalogue. Ohio Carriage Mfg. Co., Sta. 37, Cincinnati, O.

Men and Women Wanted to take charge of the distributing of samples of a GROCERY SPECIALTY and collecting. $18 weekly and upward, according to ability and locality. K. R. Co., Box 788, New York.

Buy "BALL Band" BOOTS Rubber and Wool, Arctics, and Rubber Shoes.

RUPTURE CURED while you work. You pay $4 when cured. No cure, no pay. ALEX. SPEIRS, Box 888, Westbrook, Maine.

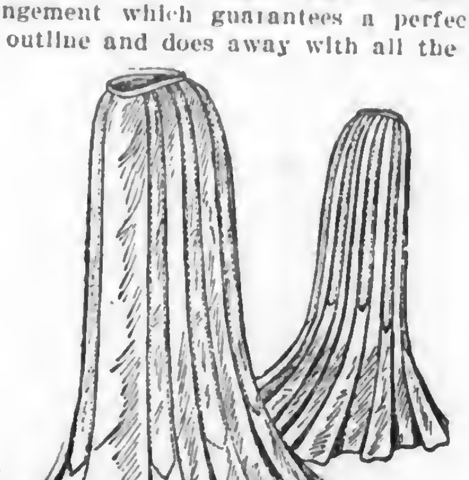
RODS for locating gold and silver, lost treasure, etc. The only rod sold under guarantee. Catalogue 2c. Address, Bryant Bros., P. O. Box 121, 42 Dallas, Texas.

RUPTURE SURE CURE at home, book free Capt. W. A. Collings, Box 22, Smithville, N. Y.

H—T—T Published monthly, 52 pages. Tells all about Hunting, Trapping and Raw Furs. Sample copy, 10c. Hunter-Trader-Trapper, Box 23, Gallipolis, Ohio.

Fashion Fancies.

Box plaits make the latest decree of fashion and can be relied upon as correct both for immediate and future wear. The skirt is cut in nine gores and includes one box plait at the straight edge of each, an arrangement which guarantees a perfect fit and outline and does away with all the danger of the pulling out of shape that is apt to accompany plaits on the bias or at the centre of circular gores. The plaits are stitched to flounce depth, then fall free to give a becoming flare. The fulness at the back is laid in deep inverted plaits that are pressed quite flat. The quantity of material required for the medium size is 11¾ yards 21 or 27 inches wide, 6 yards 44 inches wide, or 5½ yards 52 inches wide, when material has figure or nap; 5 yards 44 inches wide or 4⅜ yards 52 inches wide when material has neither figure nor nap. The pattern, 4199, is cut in sizes for a 22, 24, 26, 28 and 30-inch waist measure, and can be had for 10c. of The Farmer Co., Market & 18th Sts., Phila.



4199 Nine Gored Skirt, 22 to 30 waist.

Correspondence.

Mary Z. Dreher, Micanopy, Fla., writes: Last Fall I was confronted with the fact that the funds in my pocketbook were getting low, and that it was very necessary that I should bestir myself in some way to replenish them. I had always raised a few chickens, and had sold some, and eggs, too, occasionally; but had never worked at the business for the money that was in it, but just because it was necessary for me to have some for my own use. I had never had any trouble in disposing of any surplus that I happened to have, so I concluded that the best and quickest way for me to refill my pocket-book would be to raise a lot of "Spring chickens" to sell in the Winter time. By the first of November I had hatched off one hundred. I had Barred Plymouth Rocks, and, as they grow very fast when carefully tended, I determined to give them the best care that I possibly could. I fed them five times a day, the first meal was before sunrise, the last about sunset. I always kept them supplied with fresh water and finely cracked oyster shells. After they were feathered I fed them only three times a day. The last of January I began to sell them—selling off the largest and thus giving the smaller ones a better chance to grow. With these chickens (I raised about seventy of them; the hawks got a good share of those that I lost) and the eggs from my twenty-seven hens, I was never without a nice lot of change in my purse. I had such good luck in selling my chickens and eggs that I raised a few more in the Spring than I had been raising, and have now (Nov. 1st) sold nearly all of them that I can spare. Since the first of last November I have sold $52.83 worth of chickens and eggs. I did not hire someone to do my housework while I attended to them; the raising of the chickens was extra work, done without one cent of hire. I like the business so well that I am going to try to do better next year. I have now a hundred birds hatched out, and I am going to keep about forty hens, as I think there is more profit in eggs than there is in chickens. I always have clean nests for my hens to lay in and my eggs are clean and nice and always in demand.

Mrs. Maggie Adams, Yoakum, Texas, writes: We want a word as regards children following their own bent. I do not think a parent should allow a child to select its own vocation too early in life, especially to the detriment of its early education. Show it that a good general education is advisable in any walk of life, to the laborer as well as to the professional. The smith in his smoky shop, the farmer behind the plow, the carpenter wielding the hammer, the bookkeeper at the desk—all have need of a good education. After that they may specialize. Childish or momentary fancy is often mistaken for "natural bent." If your son or daughter seems to have a natural gift in some particular direction, converse with them upon the advisability of taking it up as a life work. Don't arrive at any hasty conclusions. My parents mistook a childish fancy for a "natural bent" and spoiled a first-class housekeeper and farm supervisor and made a third-rate music teacher. They did not take into consideration my physical condition, as to whether I could endure the strain attendant upon a musician's career. You often, doubtless, have heard parents say: "I am going to make a lawyer out of Jim; he has so much to say," or "a minister out of John, he is so quiet, sedate and a good boy," or "'Thomas is so dull it is useless to send him to school, I'll let him run the farm," and nine times out of ten the fool Thomas outstrips them all by the time their hair begins to silver. I have in mind a father who spoiled a good farmer and spent a good farm making a lawyer of one of his sons. The boy's natural bent was farming and stock raising, and today he is renting and working the very farm that was sold to make him a lawyer. Many a fond, doting mamma has worked and worried herself into the grave, or worse, the invalid chair, that her daughter might have more time and money to spend on music, art, etc., and nine out of ten of those daughters are today killing some man and their children with badly cooked food. They, nor their children ever have a neatly fitting dress without the expense of the dressmaker. Now don't understand me to infer that mothers should rear their daughters for the sole purpose of becoming housekeepers or house supervisors; far from it; but you will admit that ninety-nine per cent. of them do become such at some day or other, and the great army of dyspeptics bear out my former assertion. I would rather see my son, when grown, it being God's pleasure to spare him, clad in overalls, earning his bread by the sweat of his brow at a machinist's lathe, the engine throttle, behind the plane or at almost any honorable labor, above a hod carrier, than a shyster lawyer, quack physician, a hypocritical minister or an unscrupulous office holder dressed in the robes of their respective professions. I would rather see my daughter measuring calico, teaching school, manipulating a typewriter and finally becoming the wife of an honest laborer, than, by her special proficiency in the waltz become belle of the town, the rage of the season and marrying some empty-headed son of aristocracy, who has little to boast save money and a bad moral reputation. If the child's natural bent is above menial servitude or the stage, don't spend a fortune trying to "make" something of it, that it is no more fitted for—by nature—than a cat is for sculpture.

Mrs. S. Wetmiller, Elklick, Pa., writes: Winter is the time to work up the wornout clothing and cut the rest up for carpet rags. I always take out the best parts. Where there are small children these can be used for lining or mending. The best part of wornout wrappers may be used for making kitchen aprons, after which cut all that is fit into carpet rags. The small pieces are always sewed together on the sewing machine before cutting, as it saves so much sewing after they are cut. Then there are still small pieces left that are too small to work up for carpet rags. Of these I cut out all the white rags to use for wrapping up cut or sore fingers. I have a book satchel to put them in and hang it in a convenient place where men folks or the children can help themselves. Then there are pockets of coats, pants and vests. I cut them off and put them in my seed bag. They are so handy to put seeds in when gathering and you always know where to find them. Always have a basket or box for your carpet rags when cut. In the evening or on Saturday is a good time to sew carpet rags, as the children are home from school, and you can have them help sew. They like to see which one can make the largest ball. We also sew a great many on the sewing machine, as it goes much faster than sewing by hand. When sewing on the machine lap the ends. Sew a lot then turn and sew over again, then cut apart and wrap on balls. When there is a nice lot of carpet rags on hand it takes but a short time to make a rag carpet that will wear longer than any factory made. Woolen chain keeps the color best. It will stay nice and bright until worn out.

Youth's Parliament.

A HARD HEARTED BOY.

MRS. J. M. PETRIE.

In my estimation true incidents are better than any imaginary thing we can write about; something that will be a help for grown people and a warning to the young, for the future depends upon the children of today. That is why I am going to tell you about a very hard hearted boy. He was a man years ago and today his children are classed among the middle aged.

For various reasons the writer will not name any names, nor say where he lived. We start with him when he was a small boy, and it will not take long to find out what his greatest enjoyment was. It was not at the house or barn with dogs, cats, horses, colts, etc., like most boys of today, but away from the buildings where father or mother did not see him. For he knew very well if they did see him it would be sorry fun on his part. Just like some boys of the present day, all is well so long as father is there, but what is it they won't do when his back is turned? Well our hard hearted boy went to the woods with some bait and a bird cage, fixed them in a tree with trigger works and sat down with the string in his hand. His only companion was Satan, who is the author of such tricks. He is the overseer, as no one else could manage such cruelty. Along came a poor, innocent mother bird hunting food for her young. She hopped with joy and chirping into the trap and down went the door. The boy went up to the cage, caught her, and, in spite of her pleading and fluttering, put both her eyes out and then put her back in the cage. Then he spread stiff tar all around on the branches of the tree where the cage was fastened, then went back to his resting place and watched the other birds fly there to see what made this poor bird cry so piteously. Down they went on the tarred branches, never to rise again, but to await the torment the bad boy had in store for them. These did not fare quite like the first one, because it was put in the cage, while these lost their eyes and were let go. Oh what fun for that boy to see them bump against one tree then another and another and so on until out of sight! Then another bird would be treated in like manner, and so on until they were all flying about in their terrible agony. This was the boy's whole enjoyment. For years people told him it was a sin, but he would only laugh. Time and again he was told but to no advantage; all was vain admonition. Time passed. He became a young man, loved and wooed a companion for life. Time still went on and he was happy, forgetting what sins he had committed, until a little child came to his house. But lo, it was blind. After a while another came, but with eyes that could see. Then another but it was sightless. A fourth one came without sight, and a fifth one also blind. So you see this was not a common thing for one family to have four blind children out of five. So what conclusion will we come to? Was this not sent upon his children because of his wicked treatment to those beautiful, innocent little birds? Boys, you who delight in cruel sport, don't you think that was dear fun for that boy? The father, I think, suffered the most because he brought it upon his children, and, of course, he knew it; that is what caused such heartaches. Probably he had great plans laid for the future, but they never came to pass. One thing we do know—it is always best to treat every living creature just as we wish ourselves to be treated, and then we will not be guilty of sin. It does me good to read what the little boys and girls say in the P. F. about being kind to animals. Don't rob the poor mother bird of the beautiful eggs she loves so well. Just think of the hard hearted boy of years ago and say "I'll never be guilty of a cruel deed."

["And the sins of the fathers shall be visited upon the children even to the third and fourth generation."—Bible.—ED.]

* * * * * * * *

Mary E. Layton, LaFayette, Ind., writes: I have never written for the public before. I am ten years old, and in the fifth grade at school. My teacher's name is Jennie Picken. I like her for a teacher real well. I have two brothers. We have a mile to go, but there is a wagon to haul us to school. There are about fifteen to ride in the wagon. We have a cow and a calf, two horses and six pigs, and some chickens. We have a farm of twenty-four acres. My brothers got two crows the day before Decoration Day, but one of them died and one of them is still living. He comes in for something to eat, and if we give him too much he will eat what he wants and then go and find a small hole and put the rest in it, and puts leaves over it. When we go to school he comes as if to say good by.

The Care of Blankets.

Never let blankets remain in service after they are soiled; dirt rots the fibre and invites moths. Because of the peculiar saw-tooth formation of wool hair it is necessary that a soap made of the best materials be used; a cheap soap, especially one which contains rosin, will cause the blanket to become hard by matting the fibre.

To Wash Blankets and Retain their Softness.

Dissolve shavings of Ivory Soap in boiling water, add cold water until nearly lukewarm. Immerse a blanket and knead with the hands, rinse in clean warm water in which also some Ivory Soap has been dissolved. Dry in a place that is neither very warm nor very cold.

Swan's Standard Roofing. Fire, wind and water-proof, and low in price. A knife and hammer all the tools necessary. Sample free. THE A. F. SWAN CO., 115 Nassau St., New York.

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Condensed Milk Can be made on the farm as easily as butter or cheese, and is more than twice as profitable. A farmer—an old subscriber of The Farmer—has perfected a home process and is mailing the receipt for 50 cents. Increase the profit from your cream and make as much more from the milk. Address, G. R. BONEBRAKE, Woodston, Kan.

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Our Experience Pool.

"Experience is the best teacher." This Experience Pool will be a weekly Farmer's Institute for the exchange of practical ideas by practical farmers. We want them to give their experience, as well as suggest topics for future discussion. We publish this department so that all may have the benefit of the tangible, practical experience of others on every subject pertaining to the farm. Let all contribute. A cash prize of 50 cents will be paid for the best contribution, 25 cents for each other contribution published. The only condition is that you are a yearly subscriber to the paper. Write on one side of paper only. On upper left hand corner mark plainly the number of the topic you write about. Articles on all topics must be in our hands at least three weeks before publication. Do not forget to suggest ahead topics for discussion. Address all communications to THE EDITOR, Box 285, Raleigh N. C.

Topic No. 558, Feb. 7. — *What Sort of a Brooder do You Use for Incubator Chicks?*

Topic No. 559, Feb. 14.—*How Are Farmers' Institutes Managed in Your Section, and in What Way do You Think They can be Improved and Made More Helpful to the Farmers?*

Topic No. 560, Feb. 21.—*Growing Tomatoes for the Canning Factory. What Variety Have You Found Best, and How do You Manage the Crop from Start to Finish?*

Topic No. 561, Feb. 28.—*Have You Adopted Any Systematic Method of Improving Your Seed Corn? If so, How and With What Success?*

Topic No. 562, March 7.—*Have You Raised Good Calves Without Milk? If so, How?*

Topic No. 563, March 14. — *What Varieties of Pears Have You Found Most Profitable, and How do You Cultivate and Pack for Market? Have Dwarf Trees Been Profitable?*

Topic No. 564, March 21.—*For the Ladies. How do You Make the Washing of Dishes, Pots and Pans Easier and not at the Expense of Time and Cleanliness?*

Topic No. 565, March 28.—*Have You Ever Tried Flat Culture with Cotton, and What is the Best Distance to Thin in the Rows and Between the Rows?*

Topic No. 566, April 4.—*How Do You Raise Turkeys, and What Breed is Best?*

Topic No. 556.—What Have You Found to be the Most Economical Roofing Material for Farm Buildings?

Geo. W. Allman, Gordonsville, Va.—I have used shingles, pine, cedar and chestnut, both sawed and hand-made; sheet-iron, tin and the pressed tin shingles. In my experience in Western Indiana I found the most economical roofing material to be the redwood shingles from the Pacific coast. Dealers in the West Central States handle them in carload lots and retail them at from $2.75 to $3.50 per thousand. I always prefer shingles for a barn, for the gases arising from the stables cause the metal to corrode and soon fail. Besides, metal roofs on hay barns are too hot to work under in putting away hay. When metal is used on barns they should be sheathed close and paper used under the roofing to protect it from the gases. When building my house here near Gordonsville, I used a metal shingle, which has not given perfect satisfaction. I believe the most economical roofing for this section is a good grade of tin put on with a standing seam and well soldered at all the gutters and valleys. Where one wants a more artistic roof at a greater cost, there are styles of metal shingles which give satisfaction.

J. F. Cass, Skagit, Wash.—We are in the red cedar shingle district—one of the great industries of the Puget Sound region being the manufacture of these. It makes, by universal consent, one of the best all around roofing materials obtainable. But a still better roof for ordinary farm buildings here is made of what are called "shakes." That is, the clearer portions of the cedar timber are rived out into pieces, say 6 or 8 inches wide, and one-half inch in thickness. These are 3 feet in length and are laid double on the roof, each course lapping 3 or 4 inches upon the one below. The surface of these shakes is a series of longitudinal grooves, carrying off the water better than a smooth shingle. The roof laths need be only 2 feet 8 inches between, so roof is much lighter and less expensive. This is the common roof of all the large barns hereabouts. Lasts fifty years or more.

Thos. H. Strain, Wellsburg, W. Va.—The most economical, durable and satisfactory roof for light frame buildings on the farm, I think, is the flat sheets, edges V crimped, galvanized iron. It comes 2 feet wide and in most any length. It can be put on by anyone rapidly. It does not need painting and will not rust on the under side as some painted metal roofs do. It is a noisy roof in storms but it is said to spread and dissipate any lightning striking it. It comes in varying thicknesses or gauges, which makes a difference in the price. It is much higher now than when we roofed several years ago. Probably $3.50 per square would be the average. It is called galvanized steel now.

W. E. Embry, Dade City, Fla.—We have here large forests of cypress and many shingle mills, and find that second or third class cypress shingles are good and make cheaper roofs than anything else we can get considering durability. Many thousands of these shingles go to the homes on the beautiful Hudson in New York.

J. B. Johnston, New Wilmington, Pa.—The best and cheapest roof is the shingle slate roof. This roof costs $3.75 when put on and this is less than the cost of the best shingles. Put on with copper or galvanized nails it will be there for your children and grandchildren. The slate used is 14x24, lapping 4 inches the horizontal way and 3 inches the other way, so that each slate covers 11x20 inches and is speedily laid. The cost can be reduced by buying the slate punched and laying it yourself. Slate for a wagon shed of 18 squares cost me $3 per square and my son and myself laid it in one and a half days.

[You fortunately live where the material is at hand and cheap. In most other sections the freighting of the slate would make it a very costly roof.—ED.]

Mrs. Martha Stinson, Eden Centre, N. Y.—Have used nothing but shingles, and for this locality they are the best, and the best shingles are the cheapest. I can buy the best red cedar shingles for $3.50 and they make a very permanent roof.

J. W. Ragland, Auburn, Ky.—A roof made of oak shingles made by hand, 2 feet long and 5 inches wide, with all the sap cut out, makes a roof good for all purposes. Nail them on showing 7 inches and have the shingles nailed near the lower end to keep from curling up. Such a roof will last 25 years with little or no need for repair.

W. P. Rockwell, Rome, Pa.—After a study of the roofing problem, I have found that the Neponset Red Rope Roofing, covered with two coats of Dixon's Silica Graphite paint, to be the most economical roofing for farm buildings. I have various outbuildings covered with it, some for over seven years, and to all appearance as good as ever. I have several buildings covered with the best hemlock shingles I could get and in seven years the exposed parts are all gone. There are a number of iron and steel roofs in this section, which have to be painted once a year, and even then many of them are leaking badly owing to rusting from beneath. A neighbor has a tin roof on a house not so long as my Neponset by several years, and it is leaking, though painted several times. Slate, too, is more expensive, but I have seen several slate roofs with dozens of broken slates that need work and skill to repair. If one could get good cedar shingles they might do as well as the Neponset, but here they would cost more. I have never seen any of the felt roofs that would not soon be flying in the wind. I have no high opinion of the coal tar preparations for roofs, for they soon melt and become worthless.

S. J. Patton, Mosgrove, Pa.—In 1891 a steel roof was used on a barn. Constant vigilance and annual painting have kept it in good repair, but the intense heat when storing crops is almost suffocating. A good wooden roof is best for a barn. A tin roof put on the dwelling in 1889 has given satisfaction, but it has to be painted though not more than half as often as the barn roof of steel. A shingle roof is the best for the barn and a slate roof for the dwelling.

W. W. Hickman, Tipton, Mo.—I have used white pine and cypress shingles and prefer the cypress, though the pine ones are cheaper. A great deal of tar paper roofing has been used here, but has not given satisfaction. Some tin and iron also are used, but if not painted well almost every year they soon rust out. Some redwood shingles are being used, but not long enough to tell how long they will last.

[If you live long enough to see a good California redwood shingle rot you will have a long life, we think.—ED.]

Nathan Clair, Newhall, Mo.—There is nothing so satisfactory as good shingles. A splendid grade of Washington redwood shingles can be had here for $3 per thousand, and if nailed on with galvanized nails will make a roof that will last many years. The various tin and iron roofs will soon rust out unless kept constantly painted and in the end they are not so satisfactory nor cheap as a shingle roof. For cribs and hog sheds pine boards with grooves cut along the edges make a good roof. I use boards dressed on one side and paint them before laying

Mrs. J. M. Pulliam, King, N. C.—Here in North Carolina, where we have plenty of oaks, these boards have served better than anything else. A roof covered with oak boards lasts from 20 to 25 years and sometimes more by a little patching. Up to the present time the farmer could not do better than to cover his outbuildings with oak boards and his dwelling with shingles, but in the future the farmers will generally use metal roofing.

W. E. Stickley, Strasburg, Va.—Our place has been a home for over a century and has about twenty buildings with roofs of sheet-iron, tin, steel, shaved and sawed shingles. For a steep roof with no chimney the best roof is one of lap shaved shingles of white oak, secret nailed. For a house with chimney I think tin is best and cheapest. Have had poor success with sheet-iron and steel, for they soon rust from the under side. We are wanting to see a discussion of shredded fodder.

[This was discussed some time back.—ED.]

J. Clyde Dickenson, No P. O.—In 1895 we had to put a roof on our dwelling, and wanted one that would last our lifetime. Shingles from our timber do not last. Examined a steel roof that had been on 18 years and kept well painted, and found it rusting beneath. Then struck a galvanized steel which was claimed to last for all time and need no paint. It had been on but a few years and we did not believe it was what it was claimed to be. So we were between tin and slate. We counted the cost of painting the tin roof for forty years and put on our house the standard lap slate, and consider it the best and cheapest roof. We are going to roof stable and other outbuildings with single lap slate, costing two-thirds as much as the standard lap. For old outbuildings I would advise the use of three-ply tarred paper, paint it with coal tar and sift sand over it. Paint your sheet-iron roof the same way and you will save money.

E. N. Crossett, So. Acworth, N. H.—Here shingles are the material, as there are many mills making them of hemlock, spruce and pine. No. 1 shingles sell for $2 per thousand, and No. 2 for $1.50. I prefer a No. 1 white hemlock, as they last longer. I have taken off shaved shingles that had been on 80 years. The sawed ones now last 15 to 20 years, and 1,000 will cover a square and a half nearly. Cost $1 per square to lay and three pounds of nails. Our shingles are tapering, 16 inches long, and are laid 5 inches to the weather. The roof costs $2.35 per square for No. 1 shingles. There are metal roofs that cost $4 a square and have to be painted. I think a shingle roof, well laid, makes the most satisfactory roof of anything we have tried here.

C. E. Haw, E. Syracuse, N. Y. — I have found tar felt roofing the cheapest and most satisfactory for farm buildings. Snow does not sift through as it does through shingles, and it does not rust like tin or iron, and is noiseless in storms. If properly made I think it will last as long as any. When I began to use it I lapped it like shingles and had trouble with its sagging apart at the laps. By the advice of a contractor I put it up and down the roof, and find that it wears 50 per cent. longer, and no trouble with sagging on a steep roof. I have 5,000 feet, with battens nailed on the laps and and one down the centre of the strip. This makes a respectable looking roof. If put on in spring I put on a thin coat of tar so that it will not run in warm weather, and then throw sand on it hard enough to bed in the tar. This must be done as fast as the tar is put on while it is fresh. One such coat lasts, on the sunny side, three years, and on the north side five years. Tar is better than prepared roofing paint. Have been using this roof for fifteen years and never had any blown off. Have tried different brands and some are inferior. Where some of the poorer quality has begun to flake up I have given it a coat of tar and then a new cover of felt right over it, and I believe it will last as long as I will, and as I am strong and healthy and 46, I am looking forward to years of reading the P. F.

G. L. Palmer, Richmond, Me.—We find the tarred felting sold by A. F. Swan Co., and advertised in the P. F., the easiest to lay, and we think the most economical roofing. Our roofs, shingled less than five years ago, must be repaired in the Spring. We used the felt on one side of the barn and shall buy felt for the remainder. It is quickly laid, hardens rapidly, will not burn, so that the danger from sparks is less, and is very cheap compared with shingles and is proof against vermin.

E. R. Davis, Cazenovia, N. Y. — Cedar shingles, free from knots and sap-wood, have been the most economical roof for me. First-class shingles may cost a little more than tin or tarred paper, but the number of years the red cedar will outlast them, will more than make up the additional expense. Tarred paper has proved shortlived here, having to be replaced in 8 or 10 years. Tin is good but must be painted once in two years to prevent rust, and the painting adds to the cost and is not needed on the shingles.

B. P. Jackson, Sperry, Ia. — I have tried No. 1 shingles, grooved roofing boards, ruberoid and paper roofing, and noticed the experience of my neighbors with steel roofing. All these cost less in the first place, except shingles. My board roof leaks badly, and has spoiled hay and rusted tools, and the horses have slept on damp bedding because of that cheap roof, and cough from dusty hay that was put in good. I say deliver me from cheap roofs. No. 1 shingles are the cheapest and will not leak in twenty years or more. A neighbor put on a steel roof two years ago, but it leaked badly last summer, and he has replaced it with shingles. I think a good shingle roof the best for all farm buildings. If in danger from fire, use tin.

George Wilkins, Shandon, O.—I have used shingles, iron and tin. We have a white pine shingle roof on a barn, put on in 1883, which I think will last five to eight years yet, without paint or repairs of any kind. Roofed a corn crib with standing seam iron in 1885. It has had about five coats of paint, so that though the first cost was one-half that of shingles it now stands much higher. The metal roof is a continual tax for painting. We used some so-called steel roof in 1899, which has been painted twice and rusts faster than the iron. Our tin roof on kitchen and porch is laid flat and has given trouble by ripping at joints, and needs as much painting as the iron. The various fibre and paper roofs have been tried here, but have all given place to something else. So unless there is special need for a metal roof I think one of white pine or redwood shingles, nailed on with the old-fashioned cut nails is the most economical one and should last for 30 years.

C. C. Beals, New London, Ind.—I have only used shingles and old-fashioned clapboards. The best red or white cedar shingles make as good roofing as one needs. Metal roofs rust out quickly if not kept painted. The metal roof has one advantage over the shingles, in being fire-proof.

Thomas Patton, Mosgrove, Pa.—On our dwelling we have a Bangor slate roof seven years old. It excels any other, and is as cheap as tile, tin or steel. Needs no painting except on the ridges and valleys, and the insurance companies make a deduction of one-third or one-fourth the premiums for such a roof. It would be too heavy for a large building like a barn, and for such the white pine or cedar shingles are best. The proper pitch lengthens the life of a roof. One-third is the least that should be allowed. I never allow a water conductor in the roof, as many have, for they frequently leak.

SUMMARY.

It is evident that the shingles have it. There is no doubt, we think, that for a dwelling house the slate roof is the best and safest. In some parts of the country it may be cheap, but over a larger part of the United States the slate roof is an expensive one. Over 100 years ago the Moravians came down into Western North Carolina and settled the town of Salem. They built solidly and plainly, and today some of their old houses with roofs of home burned tiles are still good, though the tiles are laden with moss. In lower Virginia and Eastern North Carolina there are roofs made of the old heart cypress that are still good, though no one living can remember how old they are. But it is hard to get heart cypress shingles nowadays, and those that are sold are usually sawed, and the sawed shingle of any wood will not last like those drawn by hand. Some of our friends mention the redwood shingles from the Pacific coast. If these can be had at a reasonable price there can be no better shingle, since this wood is absolutely proof against ordinary decay, and will last longer than the cypress. We have tried various kinds of metal roofing and would of this class prefer the tin shingles painted on both sides. We put on a large roof of these about eight years ago and it has done very well. Of course it needs painting about once in two years. We would always put some sort of a slate, tile or metal roof on any building where there is a chimney, but on a barn or other outhouse would always use shingles of the best kind to be had in the section. We have one rather lengthy letter with no name or postoffice. The writer will probably wonder why it does not appear. Always sign your name. The Editor does not make any guesses.

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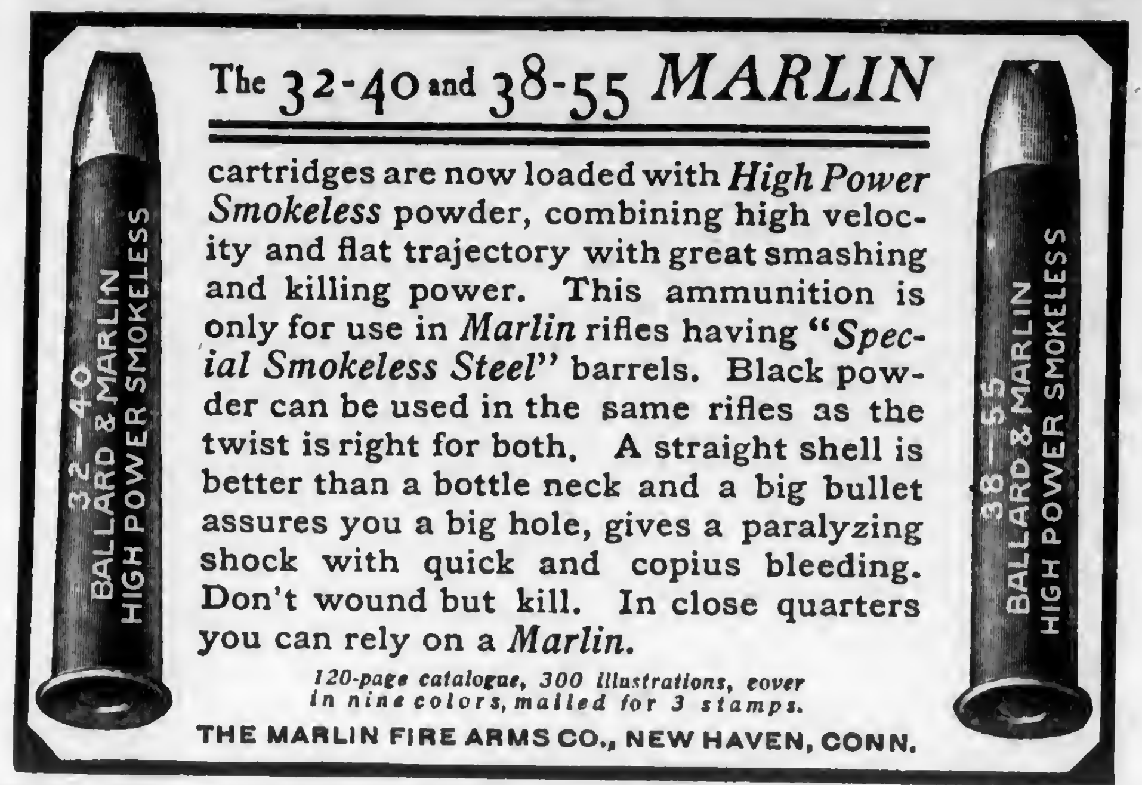
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Farm Implement Annex
To The Practical Farmer.

It is the purpose of this department to assist P. F. readers in securing the best implements and machinery for doing their work, and to so adjust, manage and care for same as to get the best possible returns from their use. We invite subscribers to write us fully and freely in regard to farm implements and machinery. Pointers on selecting implements for various kinds of work and soil; on buying, operating and caring for them; their defects, improvements, attachments, adjustments, etc., will be welcome. A cash prize of 50 cents will be paid for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Put at top of each article For "Farm Implement Annex," and send to Geo. T. Pettit, Box 32, Oneida, Kan.

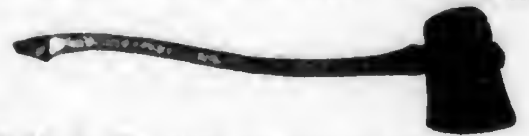
Fertilizer Sower. — In the Spring of 1901 I bought a "Stevens" broadcast fertilizer sower which I have used two seasons. It will sow either broadcast or in rows and is fitted to be used with either one or two horses. My machine sows 8 feet 3 inches wide or just half a rod, but there is a smaller machine of this kind made. I have sowed nearly all kinds of fertilizing materials with it, including nitrate of soda. Could not sow acid phosphate with the machine because it is so fine it would pack and refuse to run. By using this fertilizer sower I can distribute my fertilizer easily and rapidly whether the wind blows or not, and get it distributed more evenly than in any other way. The machine has two faults. One is the great difficulty of adjusting it to sow the required quantity per acre. The bottom of the fertilizer box consists of a stationary steel plate one-eighth of an inch thick, which rests on a similar movable plate underneath, both plates having diamond-shaped holes in them. After opening these holes half an inch, every additional eighth of an inch will make nearly one-half difference in quantity sown, hence the difficulty of getting it just right. The other fault is in the power required to move the lower plate back and forth to open and close the machine. It takes a strong man to do it even when the plates are cleaned and oiled.
H. R. TALMAGE.
Baiting Hollow, N. Y.

[The above is a good example of the kind of articles I like to receive for this department. Mr. Talmage takes up one of his own farm machines, tells what it will do and how it does it. He then points out its faults, thus giving both sides of the story. Surely every farmer who reads the Annex could get up a similar article concerning some one or more of the implements used on the farm, and I would be very glad to receive them. Tell us about the regular implements used on the farm or in the neighborhood, rather than about little home-made devices, unless the latter in some way apply to farm implements or machines.— ED.]

A Boy Can Do It.—The old smoke house fire has gone out, and with it the usefulness of the smoke house, itself. Neither is any longer wanted. A substitute, much simpler, and in every way superior has been found. Krauser's liquid extract of smoke is the new agent successfully and very largely employed in smoking meats. Cheaper, quicker, cleaner, simpler—it has numberless advantages over the old method of the smoke house. It is applied with a brush or sponge, as easily and rapidly as paint on a board. A boy or girl can do it as well as an expert curer, and it occupies far less time than the old way. Always ready: no fire to build, no waiting for wood to come, or to cut it. Each piece of meat given exactly the coat it needs, thick or thin. Krauser's liquid extract of smoke is made from selected hickory wood, and while having all the peculiar properties of the wood that cure meat by smoking, it also imparts a more delicious flavor to hams, sausages, beef, bacon, fish, or whatever is smoked with it, than the old method gave, and is perfectly wholesome. It also affords perfect protection against insects or mould.

For Hauling Corn Fodder. — As the time of hauling corn fodder is here I will describe a very good plan to adopt where there is only one man to load the fodder. Take two 2x3 inch scantlings each 12 feet long and bore a 1¼-inch hole about 3 inches from one end of each scantling. Fasten these pieces with a chain or rope on the top of any ordinary farm sled, one near each side of sled, with the ends which have the holes in them projecting out behind 4 to 6 feet. Put tall standards in the holes and you are ready for work as soon as you hitch your team. Early in the morning of a cloudy day when the ground is frozen a little, one man can haul considerable fodder very nicely, because it is so easily loaded and unloaded. When done hauling fodder the standards and scantlings can be put away in the barn or some shed where they will occupy but little room and will be ready for use another year.
S. Olive, O. R. B. WARREN.

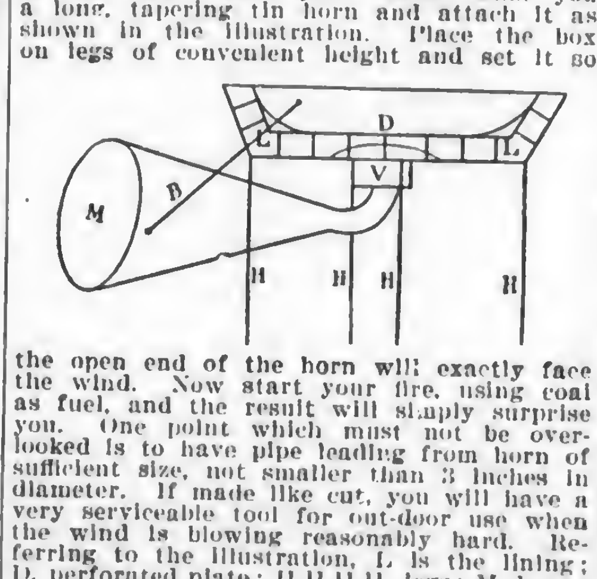
Hanging an Ax. — If users of the ax would try my way of placing it on the handle, they perhaps would never after want to use one hung in any other way. Just reverse the ax to the usual manner of placing it on the handle, putting the handle through the other way, and you will have the finest chopper you ever handled. The cut shows how it is done. Just try one this way and I think you will say it is right.
West Point, O. C. E. SCROGGS.



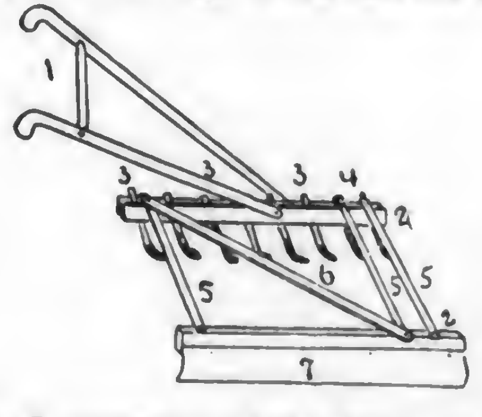
Device for Breaking a Halter Puller.—Tie a ¾-inch rope around the horse just back of the withers so it will not slip, leaving the knot just under the horse. Run the rope between the forelegs, through the halter ring and tie to the manger rather short. Now do something to make him pull back; whip him over the head with a sack or blanket, anything to scare him; warm him up good. Tie him this way two or three days and make him pull as often as you can, and when you can't make him pull any more he is cured. This method is ahead of any other that I have ever tried or heard of, and I have tried several other ways.
Oneida, Kan. W. H. MARSHALL.

Rippley's Feed Cooker and Heater.—It is a combination feed cooker and heater manufactured by the Rippley Hardware Company, of Grafton, Ill. No reason is apparent why a machine fitted to cook food for stock might not easily be made to go a step further and furnish heat for stock buildings. The Rippley Company seems to have caught the idea in a very comprehensive manner. The farmer would frequently use heat in the dairy, poultry and swine buildings if it could be supplied without great expense, or by connection with a fire in operation and doing duty in other lines. This Rippley Cooker considered merely as a cooker, is one of the most practical and useful on the market. It takes on a double value when it is employed to heat water in stock tanks two or three hundred feet away, to heat dairy, poultry and other buildings, to furnish steam for such necessary uses as grinding, separating cream, churning, etc. It can be used in the yard, or set up and attached to a chimney in any building. Though small and compact and easily handled, one of its special strong points is that frequent removal is not necessary, it being able to perform its numerous duties equally well at any reasonable distance.

A Simple Forge. — Take good lumber and make a box 1 foot deep and 3 feet square. Line sides and bottom on the inside with brick. Over this place a layer of clay and form your bowl-shaped fire-box. Cut a hole in bottom of box and over the hole put a circular piece of heavy sheet-iron, bedding it in the clay. Have your tinner make you a long, tapering tin horn and attach it as shown in the illustration. Place the box on legs of convenient height and set it so the open end of the horn will exactly face the wind. Now start your fire, using coal as fuel, and the result will simply surprise you. One point which must not be overlooked is to have pipe leading from horn of sufficient size, not smaller than 3 inches in diameter. If made like cut, you will have a very serviceable tool for out-door use when the wind is blowing reasonably hard. Referring to the illustration, L is the lining; D, perforated plate; H H H H, legs; M, horn; B, support for horn; V, small box lined with clay, through which the pipe passes.
Howell, Ky. H. GRUBBS.



Home-Made Ice Plow. — The illustration shows an ice plow which I made on a rainy day. It works easy and rapidly and may be made at a trifling cost. 1. Plow handles. 2. 30-inch 2x3 beams. 3. Six teeth. 4. Regulating tooth. 5. 1x¼ inch iron cross-strips 20 inches long. 6. 1x¼ inch iron brace rod. 7. ¼x4x3 inch log the width regulator. 8. ⅜x2½ inch iron in two pieces; bolt onto beams with five bolts, to hold teeth in place. The teeth are made from old No. 10 inch files, your blacksmith charging 5 cents apiece to make them. A pair of old plow handles will do, and with the cross strips and a few bolts is readily put together. C. L. MOSS.
Hammonton, N. J.



Oiling the Harness.—All harness should be oiled at least once a year, and perhaps the best season for doing this work is in winter, when the farmer has plenty of time for it. The following mixture will keep the harness soft and pliable and add greatly to its durability. Take three quarts neats foot oil, one pint castor oil, two pounds tallow, one-half pound powdered ivory black and one pound bees' wax. Put all together and heat till dissolved, stirring well to insure even mixing. First wash harness in warm water to which a teaspoonful of soda has been added, till all dirt is removed. Now apply a good coat of the grease with the hand, rubbing it in well. Let remain in a warm room three or four hours, then wipe off surplus grease with a rag. This is also good for boots and shoes. C. V. GREGORY.
Burchinal, Ia.

Disk Drills.—Last Fall we laid aside our old press drill and used a disk drill for the first time. We found it better than we expected, as it goes easily and effectively through all kinds of trash. The soil was very wet in some portions of the field and dry in others, but the drill did good work in all conditions. In buying a new drill select one with seat well up so you can see to drive straight and not have missed places in the field. We kept the dirt out of the oil tubes by placing a large spike in each tube. The head of the spike drops down of its own weight and is better than a wooden plug or a small cork. J. O. SHROYER.
Humboldt, Neb.

THE FIRST STEP

Of the child is an event in the mother's life. How proud she feels when the attempt to walk is begun so early as to evidence childish courage and sturdy strength. Such pride should be enjoyed by every mother. But it often happens that the child is timid, weak and deficient in vitality, and clings to the mother's arms with no desire to walk or play.

Mothers should learn that to have strong children they must themselves be strong, for the child's strength is the gift of the mother.

The use of Dr. Pierce's Favorite Prescription by expectant mothers gives them health and strength to give their children. It nourishes the nerves, strengthens the body and gives great muscular strength and elasticity, so that the baby's advent is practically painless.

"I have been using Dr. Pierce's Favorite Prescription, and can say it is just what you advertise it to be, and can cheerfully recommend it," writes Mrs. Victor J. Hadin, of Leonardville, Riley Co., Kansas. "I began taking it just two months before baby came and was greatly benefited by its use. The doctor who attended me said I did about as well as any one he had seen (as I was sick only about three hours), and also that your 'Favorite Prescription' was 'the one patent medicine' which he did have faith in.

"We now have a darling baby boy, strong and healthy, who weighed nine pounds when born (July 28th). During this month he has gained three and one-half pounds."

"Favorite Prescription" makes weak women strong, sick women well. Accept no substitute for the medicine which works wonders for weak women.

The People's Common Sense Medical Adviser, a book containing 1008 pages, is given away. Send 21 one-cent stamps for expense of mailing *only*, for the book in paper covers, or 31 stamps for the volume bound in cloth. Address Dr. R. V. Pierce, Buffalo, N. Y.

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24 PORTSMOUTH TERRACE.
ROCHESTER, N. Y., May 15th, 1902.

Dr. D. M. Bye Co.

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Respectfully yours,
JESSE W. HATCH.

Dr. D. M. Bye's Combination of Oils cure Cancer, Tumors, Piles, Eczema, Skin, Blood and Womb diseases. Doctors, lawyers and ministers of the gospel have been cured and endorse it. It is soothing and balmy, safe and sure, and cures without pain or disfigurement. Those desiring free books telling about the treatment, save time and expense by addressing the home office—DR. D. M. BYE CO., P. O. Drawer 505, Indianapolis, Ind.

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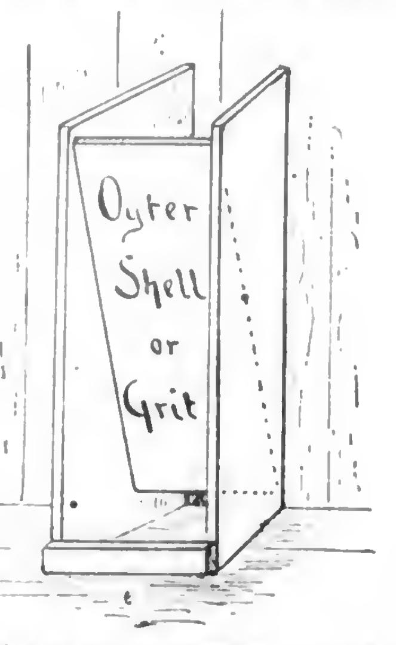
SHORT CUTS.
BY PRACTICAL FARMER SUBS.

All other trades have resorted to "Short Cuts." To be successful farmers must resort to them, too. In this column we will publish all actual labor saving short cuts made by the farmer on the farm and the housewife in the home. Write and tell us of any labor saving tool you have made, of any method of management or manner of using implements to save time, labor and money, or increase their efficiency. Even the smallest things may be useful and valuable. Hints and helps in the household are always welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Write on postal cards and make articles short. All errors will be corrected by the editor. Address all communications under this head to T. Greiner, La Salle, N. Y.

Oyster Shell Feeder.—To be sure that the hens always have good, clean grit, take a few moments some rainy day and make a box as follows: Use three boards 6 inches wide by ½ inch thick. Take two of them and nail up against side of building with bottom on floor and far enough apart so that



third board will set in between, then nail as shown in cut, using only two nails exactly opposite one another; then you can regulate feeding as required. After this is done be sure that the feeder always has shells in it, and the hens will help themselves.
Triangle, N. Y. E. W. BREWER.

Curing Pork for Home Use.—The hogs when killed should hang until thoroughly cooled. They should then be split along the back. The hams and shoulders should first be removed, cut short leg joint and well rounded and trimmed. The sides should be used for bacon. Roasts should be cut from loin. The spare ribs should be cut away. Lard should be made from leaf lard and trimmings. Lean trimmings should be made into sausages. Hams, shoulders and bacons should be rubbed with salt and placed on edge in layers in a barrel, which should first be sprinkled with salt at the bottom. For each 100 pounds of meat make a pickle of 5 gallons of water, 9 pounds of salt and a little saltpetre. Pour it over the meat and let it remain from six to eight weeks; then remove it and put it in the smoke, which should last from two to three weeks. The smokehouse should be tight and the smoke should be kept up constantly. The meat should not hang close to the fire. After smoking, the hams, shoulders and bacon should be hung in a cool, dry place. I have found the granary in my barn the best place. The salt pork, etc., should be left in the brine until used. F. F. FRANTZ.
Wehr, Pa.

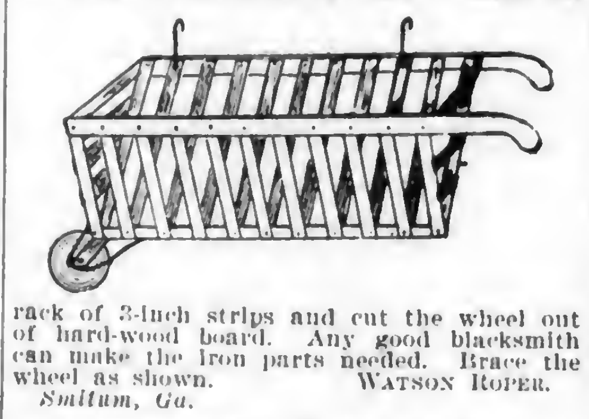
Handling Manure. — Save the manure by building a shed near the barn if you already have none suitable for a wagon to stand under for the purpose of putting the manure in as you take it from the stalls. When wagon is full haul direct to the land. This economizes time and saves the manure from loss by rains. JOSIAH STANDING.
Kemblesville, Pa.

To Keep Baby Warm.—If baby insists on having his hands uncovered these cold nights, try sewing long cuffs on the sleeves of his gowns; soft wool goods or old knit underwear is best. Make bibs of white oil cloth for the little ones to wear at the table, also mats to place under their plates. It will save you washing the little dresses and tablecloths. An apron of oil cloth to wear while washing or doing kitchen work will save much washing.
MRS. B. L. SUMMERHILL.
McMinnville, Tenn.

Catching Hogs.—A most dreaded job on the farm for us has always been the catching of hogs for butchering, ringing, etc. With the following device the task becomes easy: Procure a ⅜ or ½-inch iron tube about 2½ feet long. About one-quarter inch from one end drill a small hole for fastening a No. 14 or No. 16 wire. Draw the other end of wire through the tube, leaving a loop at lower end, the wire projecting about 15 inches out of upper end and fasten a 3-inch ring to it. You are now ready for business. To catch hog enlarge loop as much as necessary, get him in a corner, throw loop over his nose, draw up on wire. With a little practice the largest hog can easily be caught and held by one man. A. W. SUMMER.
Ann Arbor, Mich.

Care in Handling Logs.—In the P. F. of Dec. 20th in Short Cuts department, first article from the pen of Clifford G. Howell, occurs a statement thus: "One man lead the horse and another follow behind the log ready to hold one end of it up." The latter part has been followed out by many, but some have lost their lives by it. There are several instances in this (Steuben) county that have happened in my life of 40 years, where men have followed behind logs being loaded, when a rope, chain, link, clevises, pins, hooks, etc., have given way and let log back on them. My father was a logger once, and though I have often helped him he never allowed one to get behind a log while it was moving, but always stopped the horse or horses, making them hold the log till it was blocked with an ax or block of wood, and then the utmost care was taken to prevent trouble. E. G. RICHMOND.
Angola, Ind.

A Green Fodder Feed Rack. — The rack shown herewith can be filled at the fodder field and wheeled to the pasture or barnyard, where it can be hung up against the fence by the hooks at back. Make the



rack of 3-inch strips and cut the wheel out of hard-wood board. Any good blacksmith can make the iron parts needed. Brace the wheel as shown. WATSON ROPER.
Smitum, Ga.

To File a Saw in the Woods.—Saw into top of a small stump, near the edge, and trim off outer edge slantingly so there will be room to use file. Invert saw into this groove and hold it steady by wedging temporarily, and it is ready for filing.
Albion, Ind. ROLLIN BLACKMAN.

Care of Rubber Boots.—A rubber boot that fits so loose as to wrinkle, will crack. Oil will cause the best rubber to decay. Even milk has enough oil to decompose rubber. These are a couple of the principal reasons why some people can't make rubber boots or shoes last long.

When Butchering do not drag hog to scalding vat till dead. If it is not quite dead it will cause the hide to turn red. When lifting hog to hang up, use horseshoes to grasp with instead of holding to one another's hands. It is much easier to lift in this way. A. F. SUNSTEDT.
Lamar, Mo.

Coal Scuttles.—We had quite a collection of defective coal scuttles, causing a great amount of cleaning and annoyance. The defects were invariably found in the bottom, and cured by a piece of felt cut from the legs of cast off felt boots, to fit the bottoms. (By the way, each of our scuttles required a different sized piece of felt.) These we saturated with warm starch, pressed firmly on the inside of scuttle and left to dry. They are now in daily use and prove a great saving of time, labor and temper. One has to be careful to keep them dry. As soon as they are not in use we shall remove these felt pieces and apply muslin ones saturated with paint both inside and outside the scuttle. We have mended water pails this way which lasted well for stock watering.
Steubenville, O. MRS. GEO. M. WARREN.

A Cheap Cellar.—Several years ago I sent a description of my cellar to the Short Cuts department of the P. F. I have received so many inquiries in regard to it that I have decided to try and make the description plainer. The wall is hollow tile 8x16 inches; they lay, including mortar, about 9x16½ inches. I dug down flush with the sill, deep enough to use five courses of tile, about 45 inches. I left a shelf of 20 inches, then dug to a depth of 7 feet from sill, bricked up from bottom of cellar to top of shelf, with brick placed endwise in cement mortar; covered shelf with cement one inch thick. I have the handiest and warmest cellar in the neighborhood at a cost of $65, under building 18x25 feet.
Centerton, O. W. S. CARPENTER.

To Wind Barbed Wire.—Make a coil at one end of wire about 3 feet in diameter, then wind by rolling over and over on the ground, taking care to keep it in a snug roll. In this manner from ten to eighty rods may be wound in one roll. This is much better than winding on barrels, as very often the bottom will drop out and the barrel collapse, leaving the wire in a snarl. I have found this a short cut in changing farm fences.
Burchinal, Ia. JAS. A. GILLETTE.

"For the land's sake"—use Bowker's Fertilizers. They enrich the earth and the men who till it. Address nearest office, Boston, New York or Cincinnati.

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Farmers and Gardeners, tens of thousands of them, for 40 years have annually relied upon GREGORY'S SEEDS Experience has taught that they ARE THE BEST. Sold under three warrants that our seed will do their part in the making of the crop. Catalogue free. J. J. H. GREGORY & SON Marblehead, Mass. GREGORY'S SEED CATALOGUE FOR 1903

Mistakes, Failures and Successes.

In this department we publish the Mistakes, Failures and Successes of our subscribers. They are equaly instructive and necessary, pointing the way to success. Subscribers are cordially invited to send accounts of efforts they have made which resulted in failure, as well as those which proved successful. Give in a few words your experience of anything connected with farm or household work. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Only helpful communications of value to P. F. readers will be accepted. The head of the column will be considered the position of honor each week. Send all communications to Geo. T Pettit, Oneida, Kan.

The Vegetable Garden. — A warm, sunny exposure sloping to the south is best for the vegetable garden, as such locations permit earlier planting, and, of course, produce earlier vegetables. In the small garden the soil should be enriched frequently by the application of manure spread on the surface and dug under as early in the spring as the soil will crumble to a loose, fine condition. Short or well rotted manure is best for spring use, as it will the more readily mix with the soil and is in the best condition to forward the growth of the young plants. Long, strawy manure plowed or dug in late in the fall, will help in keeping a heavy soil loose and open, while in a sandy soil it will help retain the moisture. A warm, sunny corner sheltered at the back by a fence or wall should be selected as a seed bed in which to raise the young plants. When sowing small seeds in drills, a small furrow should be made in the fine surface soil with a pointed stick, using a narrow board for a guide. This furrow should be from half an inch to one inch deep, according to the size of seeds to be planted. The seed should be covered to about five times their diameter. When the soil is at all dry it should be packed firmly over the seed with a small roller, or by laying a board down and walking on it. In making hills the soil should be removed from 4 to 6 inches deep and 12 inches in diameter. Place one or two shovelfuls of well rotted manure in the hole, and cover with the fine soil removed from the hill mixed with a little sand. To secure the earliest and finest vegetables the soil in which they are grown must be kept loose and fine by frequent workings as deep as possible without injury to the plants. As soon as early crops, such as peas, radishes and lettuce have been gathered, the beds should be worked over and planted to other vegetables, both for the purpose of keeping up a constant supply and to keep the garden looking neat. Make the soil as rich as possible and plant reliable seeds. And last, but not least, do not plant too large a garden. Will someone kindly tell how to keep lamp chimneys from cracking without any apparent cause? B. P. WAGNER.
LaBelle, Mo.

Success with a Pig.—July 4th last I paid $1 for a 2-weeks-old pig weighing about 2½ pounds, which had been taken away from its mother when only three days old. The first six weeks I fed her a rolled oats gruel costing about $1, or about 20 pounds rolled oats. With the gruel I also fed table scraps. After the first six weeks, or when the pig was two months old, I fed table scraps, cooked peelings and a mixture of bran and middlings equal parts, with charcoal twice a week and sulphur twice a month. I mixed the food quite thick so she would chew it and escape being "pot bellied." Now I feed equal parts of bran, middlings and corn, giving clear, cold water every day, a house heaped nearly full of straw to sleep in, and apples to eat at least once a day. I also fed her cooked pumpkin, etc., mixed with bran. For green food I changed her pen a few times from one clover patch to another; also fed her bean vines, corn stalks, etc. I used no rule but common sense and never before had a pig so thrifty. The pig is a Chester White and weighed about 1[illegible]0 pounds by the middle of November. HATTIE PEACOCK.
Gardiner, Me.

Planting Near the Forest.—I noticed in this department some time since an article on "planting unproductive ground," in which the writer says it is a mistake to plant land close along the edge of a forest. I have seen such land successfully planted to grain and grass by first cutting a ditch along next to the forest deep enough to cut all the roots which run from the forest trees into the field. I have thus seen good grass and grain growing right up to the ditch. Of course, if the land has been impoverished by the trees, it will need some fertilizer before it will produce a good crop. It is not the shade so much as it is the roots that injure the crop. I think it will pay anyone having fields alongside of timber land to cut such a ditch. D. H. WEAVER.
Mt. Clinton, Va.

Keeping Sweet Potatoes.—Get a box—a goods box or any tight, well made box, and desired size, hinge and latch a close fitting cover to it, then line it by tacking on two or three thicknesses of paper, the outer one being tough manila, lining the box throughout. Adorn the outside with wall paper or otherwise to suit taste. Bedstead castors put under it will enable you to move it easily. It is now ready for use and will keep the potatoes any desired length of time. It may be filled and refilled as the potatoes are used up by the family during the winter, and thus the stored potatoes need not be disturbed oftener than every ten days or so. I have lost many bushels by going to the potato house every day for a mess and allowing them to become more or less chilled at each opening in cold weather. Using the box as a storage place and selecting a warm time or middle of the day to refill it, will prevent this trouble and save many bushels of potatoes. JOE GETTYS.
Duncan, N. C.

Mistake in Sweet Potato Culture.—Although I have been raising sweet potatoes for family use for over 15 years, yet I did not know why my crops some years were poor when I thought I gave them good care and cultivation. I thought sweet potatoes needed loose and mellow ground in which to produce plenty of large roots, so I plowed the ground deep and made wide ridges. Not long ago I was talking with an acquaintance of mine who raises hundreds of bushels of sweet potatoes for market, and from whom I got my plants the past season, about raising sweet potatoes. His crop, on poorer land and no more cultivation than mine, produced three times as much to the acre as mine. He says the ground for sweet potatoes does not want to be plowed deep; also that the ridges should be narrow and settled firm when the plants are set. He says the cultivation should be shallow, merely scraping the ridges, and with but little loose dirt between ridges. Mine in the loose ground grew too much to long roots the size of a lead pencil and the finger, long, small potatoes forming in the loose ground at some distance from the plants. I shall hereafter endeavor to follow the advice of the one who knows from actual experience. A. J. UMHOLTZ.
Tum, Ark.

How to Use Cold Biscuits.—Soak the cold biscuits in buttermilk till soft enough to beat into a batter. I have found it a good plan to put them to soak at one meal and use them at the next. Add egg, also a little salt and soda as for pancakes; if you do not wish to use eggs, put in flour enough to make a rather stiff batter, then bake in the ordinary way. Batter cakes made in this way are much more easily digested than when made in the usual manner of flour, being thoroughly cooked. J. L. BAKER.
Winchester, Tenn.

Renewing Old Rag Carpets. — The carpet on our dining-room floor was soiled and faded until it was difficult to tell what the original colors had been. So I took it up, ripped the breadths apart and put it in the pounding barrel to soak over night in cold soft water. In the morning I ran the breadths through the wringer, replaced the cold water with hot suds and pounded them out one by one, changing the water as needed until they were clean. They went through the wringer as easily as a blanket, were not much heavier to handle and dried about as quickly. The prevailing color of the fancy stripe was red, so I steeped a package of that dye according to directions, and laying the widths, when quite dry, on the extension table, I went over the stripes with a small brush, using a strong solution of the dye where it was a deep red and making it weaker where the stripe shaded down to prints. I was careful not to use dye enough to make the color run, but to keep the stripe true. It looked almost as well as when new and remained bright for a long time.
Mt. Morris, Mich. H. L. TAYLOR.

Care of Horses. — In the first place, horses are like people in that their appearance is affected by the clothes they wear. Always keep your harness in shape and have it properly adjusted to fit the horse. A good stable blanket should also be used. In cleaning the horse, brush his mane and tail as well as you would his body. Brush his mane the opposite way first, then the way it is accustomed to lying last; by brushing it on both sides it will have a nicer appearance. Have him shod regularly, and above all, have him thoroughly broken. How often do we see a horse plodding along with an old harness on, none of the straps in their loops, the blinds flopping, and half cleaned off. What a difference it makes when some person buys him and takes better care of him, fitting him up with a good harness. If you wish to be successful and get good prices for horses, try this plan. ELDON D. SNYDER.
Scotts, Mich.

Self Sucking Cow. — To break a self sucking cow of this nefarious habit, take beef liver while it is yet warm and rub the teats and udder of the cow with it. Very often one rubbing is enough, but if you fail the first time and the liver becomes cold, put it in milk-warm water and apply again. I have not only used this remedy with success, but have known a number of others to try it and it has never yet failed. This is a much better preventive than to have the cow all harnessed up with bands, straps and sticks, which are troublesome all the time.
Taylorsville, N. C. MRS. J. P. PAYNE.

Sending off for Seed Corn—I made a big mistake last spring in sending away for seed corn. Our corn was so poor last year and so many barren stalks on account of drought, that we thought it best to get new seed, so ordered it from a responsible seed firm. When the corn came it looked well, seemed to be all right and as nice seed as I ever planted. In planting I lacked about one acre of having enough seed to finish the piece, so finished up with my own seed of last year's raising. The result was that where I planted my own acclimated corn I raised 35 bushels per acre, while the "foreign" seed produced but 8 or 10 bushels per acre. This experience cost me about $100. So I would advise planting the bulk of the crop with home grown seed, or at least with corn grown in about the same climate and soil.
Farina, Ill. E. G. CROWLEY.

Fertilizing Orchards. — On many of our New England hillsides the soil is so rocky and the slope so steep that it is impracticable to plow and fertilize orchards in the usual way. So we have to face the problem of getting the largest returns from commercial fertilizers applied without plowing. Our trees do not seem to be benefited by having the fertilizer sown broadcast upon the sod, so we made holes from 12 to 18 inches deep with a crowbar, and turned several handfuls of fertilizer into each hole. The growth of both foliage and fruit is excellent, the return from a given quantity of fertilizer being several times as great as where it was sown broadcast on the surface. Two men can cover a large area in a day, one making the holes with a crowbar and the other turning in the fertilizer.
E. Dixfield, Me. HARRY L. SMITH.

Doctor CUPID.

One of His Prescriptions.

THAT Love sometimes cures disease is a fact that has recently been called to the attention of the public by a prominent physician and college professor. In some nervous diseases of women, such as hysteria, this physician gives instances where women were put in a pleasant frame of mind, were made happy by falling in love, and in consequence were cured of their nervous troubles—the weak, nervous system toned and stimulated by little Dr. Cupid—became strong and vigorous, almost without their knowledge. Love is not, however, the cure for all women. Many a woman is nervous and irritable, feels dragged down and worn out for no reason that she can think of. She may be ever so much in love, but Dr. Cupid fails to cure her. In such cases the body is not sound—the nervousness and other symptoms are telegraphed all over the body by the nerves (which is the telegraphic system of the human body) because the weak spot demands attention. In ninety-nine per cent. of these cases it is the womanly organism which requires attention; the weak back, dizzy spells and black circles about the eyes, are only symptoms. Go to the source of the trouble and correct the irregularities, the drains on the womanly system and the other symptoms disappear. This can be done easily and intelligently. So sure of it is the World's Dispensary Medical Association, proprietors of Dr. Pierce's Favorite Prescription, that they offer

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Mrs. Effie Walls, of Chelsea, Mich., says: "It is with pleasure I write to you of the benefits I have received from Dr. Pierce's Favorite Prescription. For about two years I felt completely tired out; was thin in flesh, skin yellow, had no ambition. Some eight months ago I took a severe pain in my back. Had read so much about your 'Favorite Prescription' thought I would try it. I purchased one bottle and it helped me so much I have now taken over three bottles. My heart don't bother me and I feel well all the time. Your 'Prescription' is the best medicine ever tried. I wish I could get all sick and weak persons to try it."

Mrs. Martha D. Bruce, of Rochester, Wash., writes: "I will enclose the amount of stamps in payment for your valuable book the 'Medical Adviser.' I prize it above books; I would not be without one. I also prize your medicines very highly for the good I have received. I am sure the 'Favorite Prescription' carried me through a critical period when I do not think a doctor could have saved me. I have recommended it to other sufferers far and near. I am so glad for such blessings as your medicines, and hope you may live long and enjoy the blessings of your labors and the sunshine of God's love.

"If my testimony is any good to you, you are welcome to use it."

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I have been a constant reader of your paper for three years and have not seen a word from this section. I live on the west bank of the Chowan River, near its mouth, six miles west of Edenton, N. C. We have as fine farming land as I have ever seen in any State; lands are very level, 25 feet above sea level, with fine natural drainage; a very deep soil with clay foundation. This is the great fishing section of North Carolina. My neighbor, Dr. W. R. Capehart, has the finest and most profitable fishery in the U. S. Another neighbor of mine, J. H. Jernigan, takes the premium of all this section, and possibly of the State, on raising fine tobacco. I have been farming three years and have been greatly benefited by the P. F. I have carried out its instructions on raising and curing cow pea hay, and have made a success of it. I raise nearly everything consumed by man and beast that is possible. I keep books and can tell in a very short time cost of raising anything raised on my farm, and what it sold for. Cotton, tobacco and peanuts are the money crops. I also fish during the fishing season, which is from the 15th of February until the 15th of May. I have lots of fish scrap, or, in other words, the trimmings of North Carolina herring, which consist of the head, blood and roe. I want the Editor, or Mr. Terry, or some reader of the P. F. to tell me through its columns, the best way to use the fish scrap for fertilizer on crops of this section. I have about 250 tubs each Spring; a tub is one-half of an oil barrel. It is fine for corn used the old way, put out as cut from fish, in a deep furrow and a high ridge thrown up on it. I would like a better plan so I can do away with the old-time high ridges and cultivate flat, as I believe flat cultivation best for crops and land.

E. White.

Black Rock, N. C., Jan. 10, 1903.

The wettest Fall in the memory of the "old settler." But little cold weather so far; three light frosts. Fall gardens fine. Very little fall plowing done, on account of rains. Cotton about one-quarter crop, owing to boll weevil; corn one-half crop. Prices: Corn, 75c.; sweet potatoes, 50c.; oats, 60c.; Irish potatoes, 75c. per bu.; hay, $9 to $10; cotton seed hulls, $6 per ton; cotton seed meal, $1.25 per cwt.; bran, $1.25 per sack; butter, 25c. per lb.; eggs, 25c. per doz.; both scarce. Creamery and canning factory agitated and if secured very little cotton will be planted this year.

T. J. Ponton.

Yoakum, Texas, Jan. 8, 1903.

Located in Stephenson Co., Ill., 127 miles west of Chicago. We are having good sleighing. The weather has generally been cold all through December. Farmers are engaged in dairying and the raising of grain, hogs and cattle. Considerable shock corn in field yet. Prices of land from $50 to $125 per acre; wheat, 65c.; oats, 26 to 29c.; corn, shelled, 45c.; corn in ear, 35c.; rye, 45c.; barley, 45c.; potatoes, 45c. per bu.; hay, baled, $14 per ton; butter, 22c. per lb.; eggs, 20c. per doz.; live hogs, $6; cattle, $3.50 to $6 per cwt., live weight; chickens, live, 8 to 10c.; turkeys, 12c.; ducks, 7c. per lb.

John C. Smith.

Lena, Ill., Jan. 13, 1903.

Located in Linn Co., 25 miles from Albany, the county seat. Good for farming and stock raising. Crops generally good. Stock of all kinds in demand. Cows, $25 to $40; calves, $11 to $13; yearlings, $15 to $18; 2-year-olds, $25; 3-year-olds, $28; horses, $40 to $175 per head; beef on foot, 3½ to 4c.; fat hogs on foot, 5¼c. per lb.; mutton, $3; goats, $2.50 to $3; stock sheep, $2 per head; wheat, 65c.; oats, 33c.; potatoes, 30c. per bu.; land, from $12 to $40 per acre, according to quality and location. Having plenty of rain; 14 degrees above freezing.

G. T. Frost.

Jordan, Ore., Jan. 7, 1903.

Located in Southwestern Iowa. Corn, hogs and beef cattle chief products. Corn crop averaged 45 bushels per acre. Very little soft corn and very little cut for fodder. Stalk fields very poor picking, as the stalks were blown down by high winds and rotted by heavy rains. Small grain poor crop. Hardly any Fall wheat sown. Hay is poor quality on account of wet harvest weather. Land is going down and has been very slow sale the past few months. Much snow and cold weather in December. One-third of corn still in fields. Prices: Land, $60 to $80 per acre; corn, 29c.; oats, 25c.; potatoes, 30c. per bu.; hogs, $5.65; cattle, $4.75 per cwt.; hay, $8 per ton. O. H. Barnhill.

Shenandoah, Ia., Jan. 12, 1903.

In Franklin Co. we have had a very wet winter. Roads almost impassable at times. Farmers generally behind with work; much corn still to be husked. Hands very scarce. As high as 4c. per bushel paid for corn husking. Stock that is sheltered is wintering well. Fuel scarce; coal selling at $4.25 per ton; usual price $3.25; any kind of wood sells at $1 per 4 feet. Prices about as follows: Bran, $14; shorts, $16; corn chop, $14; oil meal, $30; cotton seed, $28; hay, loose, $5 to $6 per ton; corn, 30c.; wheat, 65c. per bu.; butter, 20c. per lb.; eggs, 18c. per doz. Wheat not looking very well on account of late sowing. Farms renting for from two-fifths to one-half grain rent and from $2 to $5 per acre cash rent, according to location and improvements. Land selling at from $40 to $75 per acre.

Ottawa, Kan., Jan. 10, 1903.

Located in Taylor Co., 3 miles from Campbellsville and L. & N. R. R. Crops reasonably good. Principal crops raised are corn, wheat and tobacco. Our land is a clay loam. First frost in September and no more till December. Prices about as follows: Corn, 40c.; oats, 35c.; wheat, 75c.; potatoes, 60c. per bu.; hay, $12 per ton; bran, 80c. per cwt.; cows, from $25 to $40 per head; hogs, 5½c.; chickens, 8c.; butter, 15c. per lb.; eggs, 20c. per doz.; horses, from $50 to $150 each. Wheat yield last year, 10 to 25 bushels per acre. An electric railroad is being promoted and will probably be built next summer, from Campbellsville to Columbia. Good schools and churches. Farmers are prosperous. Best wishes to P. F., its readers and contributors. John A. Kuntz.

Campbellsville, Ky., Jan. 12, 1903.

Located in Washington Co., Ark., 6 miles east of the Cherokee Nation. Altitude 1,400 feet. Delightful climate; good breeze in summer; fine for all kinds of vegetables. Valley land fertile and good for all kinds of grain. No cotton raised here. This section noted for its fine fruits. Land from $10 to $100 per acre, according to location and improvements. Apples, $1; corn, 40c.; potatoes, 50c.; turnips, 25c. per bu. The leading apples here are the Ben Davis, Black Ben Davis, Jonathan, Winesap and Senator. Has rained for two months. T. S. Bain.

Lincoln, Ark., Jan. 10, 1903.

Every Eastern Shoreman thinks Eastern Shore of Maryland the garden spot of the world, and I believe we can prove it. As far as farming is concerned, we have as good land for grain and grass as can be found anywhere, and for early truck we cannot be beaten. With home markets for everything we raise, except truck, which we grow for New York market. I can name lots of our farmers who never get less than $100 an acre for their truck; one old gentleman 80 years old, a grain farmer, took up truck last year in addition to his grain and netted $1,000. Prices now are: Corn, 50c.; wheat, 75c.; potatoes, 25c. per bu.; cattle, $4 per cwt.; butter, 25c. per lb.; eggs, 25c. per doz.; land, $10 to $100 per acre. Excellent schools, plenty churches. Long live Prof. Massey and the P. F. I did not mention the December rose, the oyster, the shad, the muskrat and the canvas back duck—we have them all.

L. W. Beauchamp.

Westover, Md., Jan. 14, 1903.

Located in Noble Co., Southeastern Ohio. Our country is noted for its hills and bad roads. Have had very little cold weather, but plenty of rain and snow. Have rural delivery in the greater part of the country; also quite a number of rural telephone lines. Our corn crop was fair, but of poor quality. The wheat crop is in fine condition for winter. Prices as follows: Wheat, 70c.; corn, 50c.; oats, 40c; potatoes, 40c.; apples, 50c. per bu.; cattle, 3 to 4c.; hogs, 5½ to 6c.; butter, 18c.; chickens, 8c.; turkeys, 12c. per lb.; eggs, 24c. per doz.; farm wages for summer, $10 to $15; winter, $4 to $7 per month; land sells at $20 to $50 per acre, according to quality and improvements.

S. A. Hammond.

Renrock, Ohio, Jan. 14, 1903.

The weather has been quite cold the past few days. Snow 6 inches deep. Fall grain looks well. Corn and potatoes a good crop last year. Butter, 25c. per lb.; eggs, 30c. per doz.; live hogs, 6c.; dressed, 9c.; veal calves, 6c. per lb.; corn, 80c.; wheat, 90c.; oats, 50c.; potatoes, 75c. per bu.; cows, $25 to $50; horses, $50 to $150 each; buckwheat flour, 3c.; chickens, 12 to 14c. per lb. Land very productive when properly managed. Principal crops are wheat, corn, oats, rye, potatoes, buckwheat, clover and millet.

Mrs. L. Lute.

Bruce, Pa., Jan. 14, 1903.

Our Clubbing List

Subscribers to The Practical Farmer who may desire some other periodical in connection with it are offered the following to select from. The figures in the first column show the regular price of The Practical Farmer and the publication named. Those in the second column show the price at which the publication named and The Practical Farmer will both be sent for one year.

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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

Shall a 16-Acre Farmer Raise Pigs or Chickens?

H. Helson, Afton, Ohio, writes that he has 16½ acres of land of good quality. Last year he planted it all in corn and had just about enough to feed his stock through. This stock consisted of two horses, one cow and two good brood sows that raised him 18 pigs. He says he would like to raise pigs and keep poultry and asks for advice as to what to plant and how to do generally. It seems to me that a 16-acre farm is too small to keep pigs on successfully (say nothing of pigs and hens both). One could not raise enough feeding products to bring him very much money. It is true that 16 acres devoted to corn, oats, pumpkins and clover and June grass for pig pasture might be made to bring in an income of, say $400 a year, possibly some more under the best of management. But corn and the other crops should be rotated, not raised continuously on same ground. To do this would require some 50 to 60 acres of land. I would hardly think of doing anything with pigs on a smaller scale than this, and more land would usually be still better. Notice particularly the recent report of Forest Henry's method of raising pigs and how much land it takes. The writer believes in doing enough of what one undertakes so it amounts to something, and so best methods can be employed. Mr. Henry is making considerable money. He keeps 20 brood sows and raises all feed except shorts for them and the 155 to 160 pigs. This requires, for a proper rotation, some 200 acres of land, or more. The business can be made profitable on a smaller scale than this, but I would hardly undertake it unless I could have land enough to follow a rotation and keep at least five sows, and ten would be more profitable.

No, I cannot advise our friend to try to do anything with pigs on 16 acres. He stands a much better chance, it seems to me, with poultry. Quite a little could be done with them on this amount of land. In case he takes up this line I would recommend, after consulting with a well-known expert, that he should grow feed for them that he cannot readily purchase, in particular. He will have to buy some. Suppose he divides the land he can spare, say 12 acres, into four equal parts He will want the other 4½ acres, perhaps, for pasture for the cow and for the hens to run on. Then when he gets going he can raise, each year, 3 acres of clover, 3 of corn, 3 of millet, sunflowers, beets and cabbages, and 3 of oats sown thinly, say 1¼ bushels per acre, and clover seed sown with them. Some of the clover hay, perhaps second crop, should be cut very early and nicely cured for the hens. The rest of the clover and corn stalks would make rough feed for horses and cow. The sunflower seeds and vegetables named are excellent for the hens and not easily bought. The millet is good, too, and I put it in, as three acres in vegetables and sunflowers would make more than was needed. One could soon work into the right proportions for stock kept. As soon as any of these products were off the ground some crop could be sown to make fall pasture for chickens, like rye or wheat. A portable fence would be needed to enable one to pasture a part of land. Grain could be sown in corn also at last working, to make pasture. I would put the horse and cow and coarse hen manure thinly over the clover sod for corn, making it go all over. Then I would spread the fine poultry droppings evenly on the land for vegetables, etc., after it was plowed, and harrow in. If you can keep the rats and mice out of the grain it would be well to feed the oats in the bundle; save threshing and give the hens exercise—something to do to scratch the straw around and pick out the grain. Put a cement floor under cow and horses. Save hen manure carefully with land plaster, dry earth or something. This, with purchased feed and rotation with clover, will soon make your land very rich. You can grow great crops. You will need to buy some corn, wheat, etc. There is a chance, in time, to work up into a pretty large business for a 16-acre farm, and a business on a solid, permanent foundation. To get started you can, next spring, plant 3 acres, or one-quarter of the land you can devote to this business, with corn, put the same amount in vegetables, sunflowers, etc., and also 3 acres in oats, seeded with clover. You could sow clover seed alone on 3 acres as early in the spring as you can prepare the ground nicely, and thus have some clover hay next fall. Mow off weeds after they start. Put this clover sod in corn next year and your regular rotation will be established. Locate buildings so it will be handy to let hens onto any of these fields, or strips of land.

A Good Manure Shed.—W. A. LaRue, Rushboro, Pa., kindly sends the P. F. a description of his manure shed. Quite a few readers may find it about what they need. Briefly, our friend says he bought his farm 20 years ago, going in debt $3,800. It contained 120 acres, but was rough and stony. His health was good but his wife was so poorly that a hired girl had to be kept nearly all the time. He keeps a dairy, and for ten years has patronized a creamery. The debt was "wore out" some years ago. Mr. La Rue needed a manure shed, so he built one 50x64 feet, adjoining his barn, in such a way that straw and chaff could be run in overhead when he threshed. This keeps it under cover and where it is handy to throw down for the cows. The floor over shed is held up by trusses, so no posts are needed below, to be in the way of cows, or of team when drawing out manure, as Mr. L. puts it We have found two or three posts, so placed as not to be in the way of driving through, rather an advantage. The cost of trussing beams was less, and the cows enjoy rubbing on the posts, and then they are handy to hitch to. Our friend does not state how high his shed is, but says it will hold an immense amount of straw and chaff. He has running water in the shed and plenty of windows to admit light and sunshine, which is just as it should be. The shed is all enclosed. The horse manure that is not used as an absorbent in the gutters of cow stable is scattered about in shed and packed solidly by the cows. This will keep it from heating, if it is reasonably moist. This tells me something that is not in the letter, viz., that the floor in horse stable is not made of cement. If it was there would be enough liquid saved there to soak up the solid and considerable bedding, and it is well to bear in mind that this liquid is worth about three times as much per pound as the solid manure. It will save some of the fertilizer bill to use horse manure and bedding to absorb liquid that is dropped there on a cement floor, and other straw and chaff to soak up liquid in gutters behind cows. This is the way the writer always did. Mr. L. says he keeps about 15 head of dehorned stock and they have plenty of room in his manure shed. And he is convinced the saving of manure with him will pay fully 6 per cent. interest on cost of building, say nothing of other advantages and uses of shed. This is certainly a very moderate statement. It is worth considerable to have the manure protected where it cannot be hauled out as made and spread, so it is to have the cows able to get some exercise, protected from storm and wind, and to have the straw dry under cover. Mr. L says one who has not tried it could hardly believe how much better crops this protected manure will make than will manure that has leached out of doors. Just one word of caution: In building a manure shed try and put it where it will not shut off sunlight from stables. Avoid putting it on south side of the barn.

Health Hints.—The Story of Food on its Way Through the Body.—We put food into the mouth and chew it until it is fine and thoroughly mixed with saliva. When we are hungry saliva is brought into the mouth freely by the movement of the jaws. This mixing with saliva is the first process in digestion, or preparing the food for absorption into the blood. The saliva acts on the starchy or carbonaceous parts of the food. Next, the food, in almost liquid form, if properly chewed, passes on down into the stomach. There the albuminous parts of the food are acted on by the gastric juice and partly prepared for absorption into the blood. You have seen drops of sweat standing on your skin, after coming out through the pores. In the same way drops of gastric juice exude from the lining of the stomach, coming through the numerous little glands. In the same way also the saliva exudes in your mouth. When the food gets into the stomach it is constantly stirred, churned, by involuntary action, and thoroughly mixed with this gastric juice that is there, or coming in. Thus churning process cannot go on properly if we overload the stomach, or if we fill it completely full. From the stomach the food passes on through the intestines, where it is mixed with other juices that continue the process of digestion, or fitting the food for absorption into the blood, until it finally gets into the colon. As parts of the food become available they are absorbed into the circulation through minute glands, not only from the stomach, but also along the way, as it passes through the intestines. Digestion and absorption continue practically from inlet to outlet. Probably within thirty minutes after eating, some muscle-making food, and some that goes to produce heat and force, has alread found its way into the blood. The stomach will usually be at work from two to five hours on the food that goes into it at one meal. Then, in a lesser degree, the work will continue as the remainder of the mass passes on through the intestines. Now if we drink too much while eating we may do harm in two ways. First, food may be washed down without sufficient saliva being mixed with it to properly carry on the process of digestion. Second, too much liquid put into the stomach with the food dilutes the gastric juice and must be absorbed into the circulation before digestion can go on properly. In farmer language, nature must tile drain the feed before she can go to work. Some may be thirsty because they are not chewing long enough, or the system may really call for some water. In the latter case a moderate amount of liquid may be an advantage, but one should drink only when the mouth is free from food. Drink should not be used in sips with each mouthful nor to wash any food down. The reason why is given above. The elements in the food, after being absorbed, are carried by the blood to every part of the body. What for? Well, when we walk, or lift an arm, or bend the body, or breathe, or wink even, as well as when we think, or study, we are using up some of the tissues of the body. The food that is carried everywhere by the blood goes to build up new tissues to take the place of those that are used up. Thus there is a constant breaking down of particles of tissue and adding of new ones going on every minute, night and day, but of course it goes on faster when we are not at work hard. Now the blood not only carries the new materials to every part, but it also gathers up the used-up tisssues, the waste, and carries it along. The kidneys take some of this from the blood; some is taken to the surface of the body by the perspiration; some is carried away by the breaths that come out of the lungs. Remember this is the waste of tissues that have been used up, dead animal matter; the waste of food passes off through the colon. Speaking of the breath, the waste of tissues is consumed by the uniting of the oxygen in the air we breathe with the carbonaceous matter. Well, you see the blood is constantly being changed. Food elements in it are being used and more absorbed from new food to take their place. In a normal condition the blood carries quite a large quantity of food elements for us to go and come on. We work and use up same. Or, if we do not use our external muscles at all, internal work, circulating the blood, breathing, digestion, etc., is consuming the food. For example, it is estimated that the work of the heart in forcing blood through the body is, in 24 hours, about equal to lifting 435 tons one foot high. Ordinary laborers scarcely perform that much work with their muscles. Thus in various ways we use up food elements. Then nature calls for more to keep the blood properly supplied. This is appetite, hunger. When food enough has been taken to supply the natural demand hunger ceases, that is if only plain food properly chewed and containing the needed elements was eaten; if we do not tempt the appetite with sweet and dainty viands. Do you not see the folly of eating when not hungry, of forcing down food when nature does not call for it? With normal hunger nature has the saliva and gastric and other juices ready to take care of the food she calls for. Without hunger they are not ready, and slow, retarded, imperfect digestion, and a more or less clogged condition of the circulation is the result. I do not believe in the theory of putting down a hearty meal because you have extra hard work to do. Better draw on the surplus partly and after hard work is done, and you are rested and hungry, then eat. The value of exercise, work, lies in the fact that it uses up tissues and works off the waste, which is the natural law of our being. Bathing keeps the pores clean so waste can freely escape that natural way. Constipation makes trouble because the food is unnaturally long going through the intestines and more than the natural food elements are absorbed into the blood. Full breaths of fresh air carry off more impurities directly, and help to consume the waste in the blood better. Wonderful processes are going on within us, don't you think so? And the half has not been told. And they will go on without a hitch when all conditions are natural. If anything is wrong, someone is to blame, not nature.

T. B. Terry.

Composts and Fertilizers.

PROF. W. F. MASSEY.

"Subscriber," Rutherford Co., N. C.—"I would like to have the list of formulæ that were in the P. F. in January last, republished. Our farmers are interested in the matter of fertilizers as never before, and a great many are going to use the 'Lipps' this spring if nothing better is given them, and if the P. F. can give two or three mixtures for cotton, corn and garden stuff, naming such things as farmers can club together and buy in the market to mix with their home stuff to advantage, the paper will confer a lasting good on our people. I am receiving a great many letters from good farmers who are tired of the low grade commercial fertilizers and wish to get a substitute without the expensive 'filler,' which can be supplied on the farm. A great many farmers believe that the State Agricultural Department is controlled by the fertilizer manufacturers, and therefore put little confidence in what they may say about the 'Lipps,' but it is not so with you. You can have more influence in this matter than the entire Agricultural Department put together, and I trust you will give this matter careful attention."

There is no one thing so discouraging to one who has been devoting his life and energy to helping the farmers, as their readiness to take the statements of men who are simply seeking to make money out of them, and distrusting those whose sole business it is to protect them from fraud. The strict enforcement of the law in regard to fertilizers, and the inspection and analysis of all that are sold in the State, is the only safeguard the farmers have against fraud. Without this inspection and analysis they would be unmercifully fleeced by designing men. Both the honest fertilizer manufacturer and the farmer are protected by the law, for the former do not have to compete with the frauds and the latter are protected against them. The result is that the fertilizers sold in North Carolina are of a better uniform standard than in almost any other State in the country. But the Department of Agriculture is powerless to protect the farmer against the sellers of compost formulæ sold as a wonderful secret. It can only tell them that in the making of these mixtures they are wasting the manurial matters of the farm to get a little stuff that, of course, has some value. But the farmers accept the statements of the fertilizer formula peddlers that they are wonderful chemists, though no one chemist in the land ever heard of them as chemists, and that the officers of the Department, who are trained chemists, not only know less than they do but are combined against them in favor of the fertilizer manufacturers. We have so often warned them against these things, that we sometimes feel that our labor is wasted and that we had as well let them go along, wasting the manure of the farms and learning from experience what plant food really is. Now I fear that though you say the farmers in your section have more confidence in the Editor of the P. F. than they have in the Agricultural Department chemists, that when I tell them just what the chemists have all along been telling them, that they will take the statements of an irresponsible peddler of secret mixtures instead of what I may tell them. The mixture to which you refer is so compounded, that while it may fine up the manure and make a mixture, as I have said, that finally has some little value, that in the making of it you are wasting a large part of the manurial value of the farm manure and getting at last a mixture of exceedingly low grade. You say the farmers are tired of the low grade fertilizers. Well, let them buy those of higher grade or mix them for themselves. The law of North Carolina forbids the sale of a fertilizer below a certain grade, and the fillers you mention are not used in the making of standard goods. Of course, in any fertilizer mixture sold, whether made on the farm or in the factory, there must of necessity be a large percentage of matter that is useless as a fertilizer. This is the result of getting the materials as they are naturally combined. You cannot buy pure nitrogen, for that is a gas existing free in the air. Hence you must buy the nitrogen in some combination, either as a nitrate, a sulphate of ammonia, or in the form of organic matter containing ammonia, such as cotton seed meal, tankage, fish scrap, etc. You cannot buy pure phosphorous, as this would burn up at once if exposed to the air. Hence we get phosphorous in the form of phosphate of lime as it exists in the phosphatic rocks, and this is made soluble by dissolving it with sulphuric acid, and the material then contains from 13 to 16 per cent. of the phosphoric acid, associated with about 40 per cent. of sulphate of lime and some other matters. The sulphate of lime will, of course, have some value in the fertilizer, and the other matters no value, but they are there in the natural product and cannot be gotten rid of without making the article enormously expensive. So it is cheaper to get the phosphoric acid in this way than to attempt to buy the pure acid. Then as to potash. You can get it in hard-wood ashes, from 2 to 5 pounds in 100, associated with a large percentage of lime and a small percentage of phosphoric acid. You can get it more cheaply in the potash salts. You cannot get the pure element potassium for a fertilizer, as that is a metal, but you can get it in the form of the oxide of potassium, or what is called potash. In the crude salts like kainit, as it comes from the mines, there is about 12 per cent. of potash in it and the rest is made up of common salt and other things of no value to the farmer. But they are there naturally and are not added. These crude salts are chemically concentrated and from them are made what are known as muriate and sulphate of potash in which there is an average of 50 per cent. of potash instead of 12 per cent. as in the crude salt. Now in mixing a fertilizer we use these various things and get a mixture containing certain percentages of each of the valuable ingredients, all naturally associated with other things of no particular value. This cannot be avoided without making a mixture enormously expensive. Of course you can get potash and nitrogen in the combination known as saltpetre, but this is so much more costly than the other potash salts that it cannot be used economically in a fertilizer mixture, as the potash and the nitrogen can both be gotten in a cheaper form. What our farmers need to know is that no composting or mixing adds any value to the materials used, and, in fact, there is usually a serious loss. In the case of a market gardener who wishes to get his manure into the finest condition, it may pay him to incur some loss for this purpose. But with the ordinary farm crops what is called composting is usually a great waste of labor and manurial value. If a man has not enough manure on the farm, and few have, then let him prepare a mixture of the fertilizers which he can buy on the market and use these to supplement his home supply, spreading what he has at home in the shape of manure and woods earth and then applying the fertilizer. In mixing the chemicals with the home-made manure in a compost he will invariably lose much of the manure and some of the chemicals used, and he can save this and save labor by using them separately. Now if your farmers are determined to go ahead and use a comparatively worthless formula for which they have paid a peddler for the right to use, instead of taking the advice of those who are not seeking to make money out of them, but are solely engaged in an effort to protect and advise them properly, I do not think that I can help it, and they will have to go along and suffer by their lack of confidence. The sole object in life of the compost peddler is to make money out of the farmers by selling his worthless patent-rights and trying to persuade them that the officers who are appointed for their protection are leagued against them. He does this so that he can sell them more patent rights and make more money, while the Department chemists are not seeking to take money out of them, but solely are endeavoring to protect their interests. If they prefer to take the word of an ignorant pretender seeking to get their cash, I cannot help that, and they will have to take their own course. In your mountain section I do not believe that cotton should be grown at all. Your lands should be farmed for clover, grass, grain and cattle, and the farmers should get away from this everlasting dependence on fertilizers and go to farming in a systematic way. With the ordinary farm crops and good rotation there should never be any need for the purchase of a complete fertilizer at all. That is, one that contains nitrogen, as you can get all the nitrogen you need from clover and peas used in a short rotation. Then, whether you will need potash in the mixture will depend on the nature of the soil. Every farmer should study his soil and endeavor to find out what he needs to buy and what he does not need to spend money for. I have endeavored to show how this was done in my book, "Crop Growing and Crop Feeding," and if your farmers would study this book I think they would avoid the fertilizer peddler. I do not hesitate to advise this since I have no longer any financial interest in the sale of the book, but I wish that all of the farmers could read and digest it. I will give a series of formulas for fertilizers, and they are all of materials that the farmers can club together and get, and then if they want to mix them with their home-made manure all right, but I do not advise it. Applied as advised you will know just what you are using per acre, and the home manure will do more good spread on the land as fast as made and as far as it can be made to go. I sent you a bulletin of the North Carolina Station giving a number of these compost mixtures, not that I advise their use, but because I know they are better than the "Lipps" you mention.

For Cotton.—Acid phosphate, 1,200 pounds; cotton seed meal, 600 pounds; kainit, 200 pounds. Use 300 pounds per acre. Not that kainit is the best form of potash, but because it seems to have a specific effect in preventing rust in cotton.

For Corn. — Acid phosphate, 900 pounds; cotton seed meal, 800 pounds; muriate of potash, 300 pounds. Use 400 pounds per acre. I never found that I could get the cost of any complete fertilizer out of the corn crop. It will make more corn, of course, but the increase will cost all it is worth. The corn field is the place for the home-made fertilizers broadcast, and should have peas sown among it, to be followed by small grain.

For Oats or Wheat.—Acid phosphate, 1,400 pounds; cotton seed meal, 500 pounds; muriate of potash, 100 pounds. from 500 to 1,000 pounds per acre.

For Garden Truck.—Acid phosphate, 900 pounds; dried blood or tankage, 600 pounds; nitrate of soda, 200 pounds; muriate of potash, 300 pounds. Use from 500 to 1,500 pounds per acre.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Cotton Seed.—J. R. Francis, Shelby, N. C.—"I have a lot of cotton seed. Have been thinking of using it for manure. Will it pay me to exchange it for cotton seed meal? I have tried to rotate my crops as you have so often suggested, and I find that my land is improving. There is a man selling a right to make a fertilizer called ——. He claims that no one can use it without buying a right. I saw it advertised in a paper with the name of the State Chemist, Mr. Kilgore, at the bottom. What do you say to that?" If you are near an oil mill and can get 1,200 pounds of cotton seed meal for a ton of seed it will pay you to exchange. The oil in the seed is of no value as a fertilizer. In regard to the process for making a fertilizer from stable manure and dirt by the use of chemicals and lime to cut it up fine, we have often warned the farmers against it. You will find in this P. F. a long article we have prepared in answer to a man in Rutherford Co., which gives the whole thing. Farmers seem always ready to part with their money for a worthless recipe, when the Department of Agriculture, with its trained chemists, is always ready to give them correct formulas free of charge We would not give much for the patent right you mention, for we published the whole process in the papers two years before a patent was issued on it. A patent does not guarantee that an article has value, and this process of making fertilizer is simply a waste of a large part of the manure used. If they are using the name of the State Chemist to advertise their recipe, they are doing it without any authority from him, as he has always warned the farmers against this humbug. All these fellows are after is the money, and farmers seem ready to take the statements of an ignorant pretender rather than that of the State Chemist, whose sole business is to protect them against fraud. We often feel like letting them go ahead and buying their experience.

Weeds. — John C. Jeffries, Samaria, Ind., sends a little snip, about an inch long, of a weed which he wishes identified. It is impossible to identify a plant from such a little sample. If he will send the plant, root and top, when it is in bloom, we will take pleasure in identifying it for him, and will write him a personal letter in regard to it.

Fertilizing Orange Trees. — J. E. Crow, Clear Water, Fla.—"I am interested in several large orange groves in this section. There are many different opinions in regard to fertilizers for the trees, and being a business man and not a practical cultivator, I thought you might help me in this matter. Have been using different brands of prepared fertilizers, and also have used the dried sheep manure with fine results in making wood. A friend has used steamed bone with fine success in growth and quality of fruit. Will not bone make as good or better fertilizer than those I have been using?" Your pine land is deficient in almost all the elements of fertility, and needs a complete manure; that is, one containing a due percentage of phosphoric acid, potash and nitrogen. You can get a great deal of nitrogen into the soil through the growing of legume crops among the trees in the latter part of the season. Then by letting these die on the land you can accumulate humus in it and make it more retentive of moisture and thus give the fertilizer a chance to be of use to the trees. We would suggest the following: Pulverized Florida phosphate of floats, 500 pounds; dissolved acid phosphate, 400 pounds; dried blood, 600 pounds; high grade sulphate of potash, 500 pounds. This will make a ton. The acid phasphate will furnish you phosphoric acid in an immediately available form, and the floats will come in more slowly. The value of the bone consists mainly in the percentage of phosphoric acid it contains, and the phosphoric acid in bones is not worth any more than the same thing in the phosphate rock. But raw bone will have a considerable percentage of nitrogen, which will show in the more rapid growth of the trees. But the dried blood will give you the nitrogen in a good form. Then the potash in the form of high grade sulphate is favorable to the sweetness of the fruit. Use the above mixture in the same quantity you have been using other things, and we believe that you will get good results. Then cultivate the groves till July or August and then sow cow peas between the trees and let them die on the land, to be plowed under in the spring. This is about what we would do from the standpoint of a practical horticulturist who has never grown oranges except in tubs.

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Acme Harrows.—We here wish to lay some stress upon the unusually favorable conditions under which the Acme Harrows made by Duane H. Nash, Millington, N. J., are sold. In the first place, Mr. Nash is in a specially favorable position to supply the harrows to any purchaser with promptness, as he has large distributing houses at all the leading shipping points, so that all parts of the country may be reached with the least possible delay. This is a point which should not be lost sight of, as it often means the success or loss of a crop to get the seed into the ground at the proper time, and this means the proper pre-preparation of the soil and seed bed. Promptness in shipment, therefore, means very much. In the second place, there can be no more fair or honorable conditions than those under which the Acme Harrows are sold. Mr. Nash will send a harrow to any farmer who will order it, and will allow him ample time to try it upon any kind of ground and under any and all conditions. If the harrow is not found to be entirely satisfactory in every way, it may be returned to Mr. Nash and he will pay all the expenses of such return. Could anything be more fair than this? Write Mr. Nash at once for printed matter, prices and terms of this free trial and mention the P. F.

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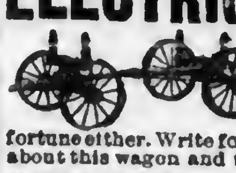

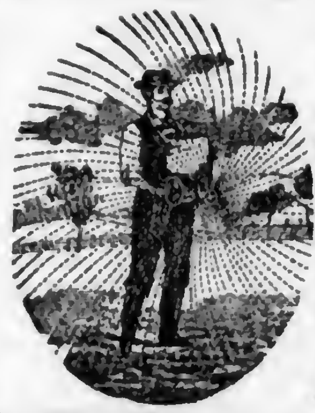

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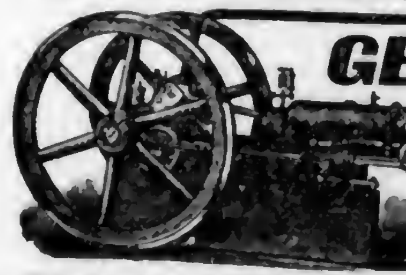

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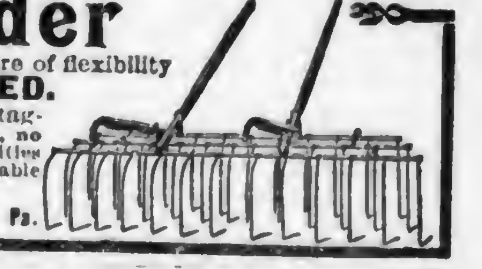

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VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 1016 Davis St., Evanston, Ill., who has editorial charge of this department. All inquiries requiring answer by mail must be accompanied by a fee of $1 each.

Tuberculosis. — I have a thoroughbred Jersey stock bull 18 months old that is in very poor condition. He is hearty and eats everything he can get, but still continues to look worse. I feed him pea vine hay, fodder and shucks and cotton seed meal. His hair looks bad and his head seems to be swollen; there is a swollen place under his throat between his jaw bones, about the size of a man's hand. A. E. BRYANT.
Spartansburg, S. C.

There is every reason to suspect the presence of tuberculosis and we can only advise you to test him with tuberculin, instructions for which are given in another answer in this department.

Tuberculosis.—We have a fine, part Jersey cow, 7 years old. She has always been in good health until about two months ago, when her hair got rough; her eyes got very dim; she had a cough all summer, but ate well and gave about six quarts of milk a day, but in two days was perfectly dry. She held her head down and seemed to have pain in her head. We gave her International Stock Food and doctored her all we knew of, but nothing helped her until we put turpentine in her ear. That started mattery substance from her nose and eyes. She soon got apparently well, ate well and gained in her milk until about a week ago, when she was taken very suddenly again, just the same as before only she eats well yet and has not failed much in her milk yet.
Driftwood, Pa. J. R. RUSSELL.

There can be little question that your cow is badly afflicted with tuberculosis (consumption), so that you have done well to reject her milk. As the disease if present, might be spread to other cattle by means of the discharge from the nostrils, she should be placed in a separate building or shed and be there tested with tuberculin as follows: With a clinical thermometer, which may be bought of any druggist, take her temperature three times in one day and set down the readings, add them together and divide by three, which will give the average of the three, or normal temperature, which should be about 101 degrees Fahrenheit. At ten o'clock that night inject under skin of neck or just back of elbow two and one-half cubic centimetres of tuberculin, which may be ordered of the Pasteur Vaccine Company of New York. Next morning commence at five o'clock and take the temperature every two hours, setting down the readings upon a sheet of paper. Continue this work until eight P. M., then if there has been a rise of two or more degrees over the normal temperature the cow is afflicted with tuberculosis and should be destroyed. It is a barbarous practice to pour turpentine in the ear of any animal and causes untold suffering. If the cow is not tuberculous then she is affected with catarrh of the head and we will be glad to give you full directions for its treatment should the cow not prove tuberculous. Have her tested at once and report to us should you require further advice about the case.

Verminous Bronchitis.—I have recently had one case of lung worms with my sheep. It was a very old ewe. I killed her and found the worms. I had previously given her turpentine and linseed oil, equal parts, about a wineglassful of the mixture; it did not kill the worms. I killed her just to see if the worms were dead. Would a second or third dose have done it? Will toxaline kill them, or is there a better remedy than either? THEO. CRANZ.
Fisher, Ore.

No medicine given internally can be depended upon to kill worms in the windpipe and air passages of the lungs. It may be true that some of the fumes of turpentine may be given off through the lungs, but they are not nearly strong enough to kill worms. We have given advice for the treatment of verminous bronchitis in this department of the P. F. many times, and that treatment always included fumigating with the fumes of burning sulphur or the fumes of tincture of iodine given off by a vapor lamp or when a teaspoonful of the tincture is poured upon a hot brick, dropped into a sack and the head of the sick animal inserted for a few moments over and over again, and in the same way two or three times with intervals of one or two days. These fumes kill the worms but they have afterwards to be coughed up so that the affected animals must be well fed and cared for. When turpentine is given internally in this disease it is of use in killing other parasites which are present, and in destroying some adult lung worms which may be found in the intestinal tract. Where fumigations and the use of turpentine or the other remedy you mention are given internally without good results then medicine should be injected directly into the trachaea (windpipe). For that purpose the following mixture will be found effective: Iodine, half drachm; iodide of potash, two and one-half drachms; distilled water, three ounces. Mix together and shake then add two ounces of turpentine and six ounces of olive oil and shake well. Of this mixture, after shaking well, one to two drachms should be injected into the windpipe by means of a strong hypodermic needle and syringe. The treatment is to be repeated in two or three days, according to severity of attack and again as required. Affected animals should be generously fed upon crushed oats, bran and oil cake along with the best of hay, etc. In such food we usually give, twice daily, a teaspoonful of a mixture of equal parts of dried sulphate of iron, ground gertian root and salt.

Barren Heifer. — I bought a Jersey heifer last March and was told she was with calf, coming fresh in November. She has not had a calf, and furthermore, I have never seen her in heat. She is running with other cows and where I could see her every day. She is nearly three years old. Is there anything to do to bring her in heat?
Holly, Mich. JOHN J. HAAS.

As she does not come in heat it may be that she will never breed. If you care to experiment the only hope of bringing such animals into breeding condition is to deplete them by spare diet and out door life. Turn her out and feed her hay and bran mashes with some roots if you can get them. A little silage or fodder may take the place of some of the bran and hay. Give her to start with, one pound of epsom salts in two quarts of warm water and follow twice a week with half a pound of salts and two ounces of cream of tartar in a quart of warm water. This is the treatment for a fat cow, but if she is thin such treatment would be useless. It may be added that unless she is fat she will not be likely to prove a breeder, as in that case there would be a likelihood of some congenital preventive to conception. When she is quite thin and comes in heat commence feeding her well on ground oats and bran and breed her at second heat after commencing the good feeding, to several young bulls in succession.

Agalactia.—Please tell me what is the matter with my cow and what to do for her. She is a Jersey three and a half years old. Has always been in good health; never had any trouble with her before. She dropped second calf three weeks ago, but gave no milk; she gives less than a pint at a mess now. She has been fed on corn stalks, timothy hay, pumpkins and ordinary cow feed or chop. She gave 4 quarts a day three weeks before calving. Was advised to dry her up by milking her half out every third milking, and did so. Is that the cause of her being nearly dry now?
Paradise Valley, Pa. P. A. GRUBER.

It is often very difficult to locate the real reason for such failure of milk flow, but it is quite possible that the work of drying her up set up sub-acute inflammation or garget of the udder, due to portions of the milk decomposing when she was not cleanly milked. You could judge of this by the appearance of the milk compared with that of a cow giving a usual mess. Milk affected as we have suggested, usually tends to curdle when allowed to stand a short time, and is sickly yellow in color. Sometimes it has a trace of discoloration with blood. On general principles we would advise you to give the cow a pound dose of epsom salts along with an ounce each of ground ginger root and powdered saltpetre in two quarts of water, in which stir up a cupful of molasses. Follow this twice daily with two ounces each of powdered fennel seed and aniseed in a pint of flax seed tea, as a drench, and feed milk-making foods, such as bran and oil meal. In such conditions it is also well to rub the udder twice daily with brandy as a stimulant to the lacteal glands. As the cow is running down in condition it is just possible that her trouble is retention of a portion of the placental membrane (afterbirth). This would be indicated by a discharge from the vagina, in which case we would not give her the dose of epsom salts, but substitute ounce doses of hyposulphite of soda three times daily, while flushing out the vagina once daily with two gallons of milk-warm water containing chloride of zinc to make a 1-1000 solution. See that cow has plenty of exercise daily and that all food is sweet and nourishing. Dried blood meal is excellent as an adjunct to the rations of animals such as this, which are running down in flesh.

Indigestion.—Please let me know what ails my cows. They came off pasture in very good condition, keeping up their flow of milk exceptionally well until about a week ago, when they were giving about 70 pounds of 5 per cent. milk twice per day. Have now dropped to about 35 pounds; seem to get less at every milking. They all eat well except one, which seems to be sick on stomach. Are all falling off about alike. Their droppings are too dry. Feed consists of equal parts, by measure, of corn and cob chop and bran 7 quarts, 1 pound old process flax seed meal, 1 large tablespoonful International Stock Food, all the cut corn fodder they will eat twice a day; their only change in feed is I was feeding cow pea hay once per day and corn fodder in bundle once per day and no flax meal. Are raw potatoes of any feeding value to milch cows? LEVI F. ZOOK.
New Holland, Pa.

The change of food has doubtless caused subacute indigestion, which is characterized by constipation. It would be well to feed three times daily instead of twice and to reduce amount of corn and cob meal to one-third of the ration, substituting some other food, such as ground oats or middlings or gluten meal. We find that coarse molasses is a good food in such cases and it also tends to open the bowels. It may be mixed with the meals or used with water to wet all hay and fodder. To those cows that are evidently affected with indigestion give half an ounce of hyposulphite of soda three times daily and increase this amount unless the bowels speedily regain normal condition. Allow access to rock salt and see that they have plenty of pure drinking water; also that stables are clean and well ventilated. Hot, close stables often cause the symptoms mentioned and even allowing the cows to run out of doors during the middle of the day proves a remedy. Temperature of cow stable should not exceed 58 and each cow should have 800 cubic feet of air space. A few potatoes would prove agreeable to cows, but they should not be fed heavily. Raw potatoes tend to increase the milk flow in the cows.

Anthrax.—In the Dec. 13th issue of the P. F. I saw an article about blackleg. Have lost two cows something like that. The first was a cow about six years old, and in about two weeks another Jersey cow three years old, and they did not look sick nor anything wrong the day before. When found they were dead and when skinned the flesh on the shoulder and backbone seemed to be rotten. They were in the hay meadow and seemed in good condition. BEN GEORGE.
Darby, Mont.

We are sorry to have to say that you have evidently something far worse than blackleg among your stock, viz., anthrax, which is incurable and communicable to man, so that animals dying of the disease should be very carefully handled. Such carcasses should be consumed by fire else the spores of the disease will remain upon the place for years. Even where anthrax carcasses are deeply buried the earth worms bring the spores to the surface where they get upon the grass and are taken into the systems of cattle with fatal effect. In a comparatively recent issue of the P. F., this department, you will find a detailed article on anthrax, which should be carefully read. The disease is characterized by swellings, but they do not crackle when handled as do the tumors of blackleg, and after death blood issues from the natural orifices of the body. In skinning such animals there is danger of becoming inoculated with the disease, which takes in the form of "malignant pustule" in man. The reason we feel sure your cattle are afflicted with anthrax rather than blackleg, is that the latter disease attacks only young animals, such as calves and cattle under two years of age. It would be best to keep cattle out of the affected meadow and give each a dose of one pound of epsom salts in two quarts of warm water. Animals of all kinds are attacked by anthrax, but blackleg is confined to cattle.

Scours.—I have one or two calves with the scours. They are 50 to 60 days old. I lost one last fall with the same disease. Would be glad to know what to do for them.
Moyock, N. C. J. J. MORSE.

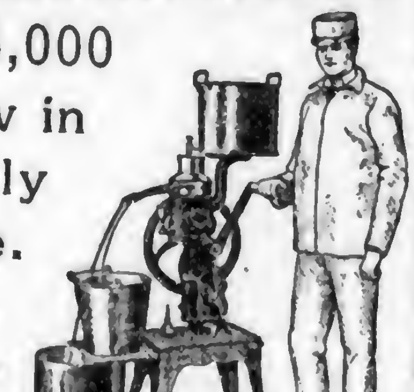
If you had taken the trouble to state your manner of feeding the calves and nature of feeds used, we would have a better chance of telling what causes the disease in your case. It is our experience that calves are most apt to scour when they are placed, year after year, in the same dirty, germ-infested pens. The disease is infectious, and for this reason where it has been prevalent the greatest possible care must be taken to keep calves away from places formerly occupied by scouring calves. A new-born calf should always have a perfectly clean, dry bed, in a roomy, sunny, well ventilated place. When calf comes the naval cord should at once be well wetted with a strong solution of corrosive sublimate (1-500) and this should be repeated twice daily until the cord entirely dries up. This will prevent many cases of scours. Then there is the question of feeding. If calves are fed from a sour dish, if the milk used is sour or tainted, if too much milk is used at one time, any one of these things may cause the trouble and treatment may depend for success upon the cause. Where calves as old as yours are afflicted with scouring it is very evident that the feeding is the cause, and if you are feeding factory skimmilk then you are giving too much of it at one time, and other indigestible food. When scouring calves are fed but twice daily it is well to feed five times, or at least four times, and if skimmilk is their chief diet and comes through without curdling, give rennet tablets dissolved in a little water and given just after each meal of milk. Experiment by dissolving a tablet and adding it to the amount of milk usually given at a meal, and if it is sufficient to curdle it that will be a large enough dose to give the animal. At the outset of an attack of scours always give a full dose of castor oil in milk, from one to three ounces, according to size of calf, then follow with the rennet. Where rennet is not effective try subnitrate of bismuth in 20-grain dose 3 times daily.

Grubs in Head.—Will you please tell me what is the matter with my sheep? At first they are taken with what looks like blind staggers; will lie down and will lie in one position for days. When moved they will live for two or three weeks and then die. I lost several last winter. I have another sick now. They run on the range almost all the year.
Grand View, Tenn. G. S. BARTAR.

Should another sheep die, saw the skull open lengthwise, and you will doubtless find grubs (large maggots) in the cavities of the head. These are the larvæ of the gad fly of the sheep, and deposited in the nostrils during fly time in summer, and find their way up the nostrils and into the sinuses of the head, where they may set up sufficient irritation to produce the brain trouble you describe. Prevention is better than cure in these cases. Smearing tar, or tar and fish oil or oil of tar upon the noses of the sheep in fly time will tend to prevent the flies from laying their small larvæ in the nostrils. With large auger bore holes in a squared log. Fill the holes with salt, then smear the tar mixture around the edges of the holes and the sheep will daub it on their noses when getting at the salt. In a bad case, showing the symptoms you describe, it is sometimes possible to save the sheep by an operation called trephining. The instrument used is a trephine, which is a saw-edged tube of steel fitted into a handle as is a cork-screw. With this a gunwad-shaped piece of bone is cut out of the skull at the proper place, and through this orifice the grubs may be removed with forceps and the cavity is then to be syringed out with a weak solution of benzine and water. To find the correct place to operate draw a line with colored chalk from one eyebrow to the other; then intersect this with another line running lengthwise of the face. The place to operate will then be in the upper angle on each side of the cross made as above advised. When the point has been chosen cut a T incision and skin back a flap of skin. Now use the trephine, and when the operation is complete draw the flap back into place and cover with a plaster composed of pitch on cloth. Surgeon's plaster will do nicely for this purpose.

Thumps. — I have three thoroughbred Poland-China sows and one three-quarters Poland and one-quarter Chester, that have pigs. The pigs did fairly well until they were about ten weeks old, then some of them began to cough and breathe very fast, and their sides, in front of hips, would thump very hard, and in a few days they would die. I have been feeding the sows on ground wheat and oats, one part wheat and two parts oats, and a little ear corn. The sows are doing well and appear to be giving plenty of milk. T. E. STEVENS.
Dennison, O.

The pigs die of thumps, and the cause is, as a rule, overfeeding and lack of exercise. You are taking really too good care of your sows; that is, you are pampering them while feeding rich foods, such as wheat, oats and corn. This is not natural management of pigs and you will find that the nearer you keep to nature the better will be the results with pregnant animals and their young. You must start with the sow long before the pigs come, and see that she runs out every day and gets plenty of exercise while living on food calculated to keep her bowels freely open. Succulent food is needed for this, and may consist of roots, silage or even bran mashes. Corn should be especially avoided for pregnant sows, and should not be used during the first few weeks after pigging. It has been found best to feed the sow rather lightly at first, and to have the food consist of light slop of milk with bran, shorts or middlings and oil meal if the dam's milk is not plentiful. During this time she and her pigs should have just as much exercise as possible, and that alone with the food mentioned, will prevent thumps if the pigs are by a strong boar of hardy constitution. We always advise a change of blood where there is annually trouble from such diseases, and it should be the blood of a boar bred in a more Northern, or at least a higher district, and where nitrogenous foods have been fed rather than corn. When a case of thumps is noticed the animal should at once have a dose of castor oil in milk, from one to two ounces being the dose. Follow with 15 drops of tinctures of opium and digitalis alternately every three or four hours until the aggravated symptoms disappear. In addition mix lime water freely in the food and drinking water. It may be added that where pigs are fed dried blood meal to balance the ordinary ration used upon the farm such diseases as thumps will be less heard of. This is also an excellent food for a sow in pig, as it gives the material from which she must form her young.



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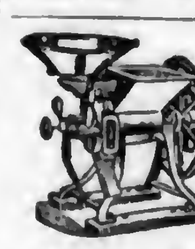

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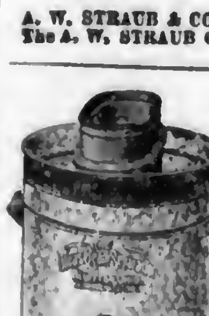

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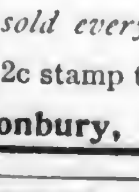

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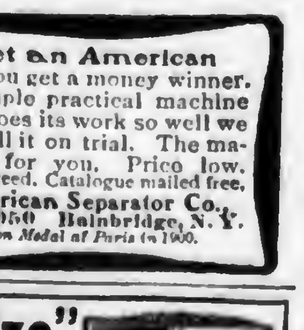

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Any honest person who suffers from Rheumatism is welcome to this offer.
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I mean that exactly. If you say the results are not what I claim, I don't expect a penny from you.
I have no samples. Any mere sample that can affect chronic Rheumatism must be drugged to the verge of danger. I use no such drugs, and it is folly to take them. You must get the disease out of the blood.
My remedy does that even in the most difficult, obstinate cases. It has cured the oldest cases that I ever met. And in all my experience—in all my 2,000 tests—I never found another remedy that would cure one chronic case in ten.
Write me and I will send you the order. Try my remedy for a month, as it can't harm you anyway. If it fails it is free.
Address Dr Shoop, Box 577, Racine, Wis.
Mild cases, not chronic, are often cured by one or two bottles. At all druggists.

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SPAVIN CURE
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of achievements in scientific and physiological chemistry has anything been discovered capable of producing such wonderful results as "Save-the-Horse" Spavin Cure.
In the face of deep seated prejudice and skepticism, at first considered an improbable and expensive experiment, no preparation ever made so marvelous a record in such short time.
The fire iron is uncertain at the best and invariably only aggravates the disease or injury; blistering is less effective than the fire iron and both necessitate laying up the horse from four weeks to two months; arsenic, mercurial and poisonous compounds produce irreparable injury.
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It can be applied at any time, anywhere, any place and in all conditions and extremes of weather—hot or cold. And no matter what the age, condition or development of the case or previous failures in treating, the concentrated, penetrating, absorbing power of "Save-the-Horse" is unfailing and no case can withstand the force of its action, whether a
Bone and Bog Spavin, Ringbone (except Low Ringbone), Curb, Thoroughpin, Splint, Capped Hock, Shoe Boil, Wind Puff, Weak and Sprained Tendons and all Lameness caused by such Injuries.
It cures without scar, blemish or loss of hair.
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Written guarantee with every bottle, constructed solely to convince, satisfy and protect you fully. "Save-the-Horse" will absolutely and permanently cure, and for that reason guarantee is made all your way.
Need of second bottle is almost improbable except in rarest cases.
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As we do not put the preparation out on speculation, we will advise you frankly as to the possibility of the remedy effecting a cure. Give explicit particulars; give the veterinarian's diagnosis if he is competent—inform us fully as to the age, development, location of swellings, lameness, action and previous treatment.
Copy of Guarantee sent upon application.
$5, all dealers and druggists, or expressed prepaid.
TROY CHEMICAL CO., Troy, N. Y., Manufacturers
Also Veterinary Pixine, the scientific, antiseptic healing ointment for hopple chafes, sores, grease heel, scratches, speed cracks and skin disease. 2 oz., 25c.; 8 oz., 50c.; 5 lb. packages, $4.00.

THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

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PROPOSITION
$1.25
Pays for The Practical Farmer for ONE YEAR and a Due Bill good for SEEDS, PLANTS or BULBS to the amount of ONE DOLLAR selected from the catalogue of a leading seedsman. Making $2.00 good value (*especially at this season of the year*), for only $1.25.
THE FARMER CO.,
P. O. Box 1317, Philadelphia.

Talks on Timely Topics.

A Double Potato Crop.—To grow two crops of potatoes on the same land, *i. e.*, an early and a late one, is by no means impossible, even here at the North. At one time, while in New Jersey, I intended to carry this plan into practice on quite a large scale. This I did not venture to do in the much shorter seasons of Western New York. I have, however, planted Carman potatoes as late as 1st of August, and grown good tubers, although not very large ones, for seed. Such seed has always given me good crops, and I have a lot of potatoes grown from that seed, in my cellar now. The plan practiced by one Geo. C. Jacobs, of Kennebec Co., Me., promises good results where conditions are favorable, and blights are kept under control by thorough spraying. Of course he prepared his land thoroughly by fall plowing, thorough harrowing in spring, and the application of a ton of fertilizer in the hills or drills. Mr. Jacobs handles his early seed potatoes pretty much as I have done for years. The tubers are brought up from the cellar in February, and placed in a light, cool room, or, in my case, under the greenhouse bench in shallow boxes or flats. When the time for planting arrives, the potatoes have thick green sprouts at the seed end, and some perhaps even well developed leaves. The tubers are planted in the usual way, kept well cultivated, free from weeds, bugs and blights, by thorough spraying, until middle of July, when they may be dug and put on the market, bringing a dollar or so per bushel. Meanwhile a second lot of potatoes has been prepared in same manner as the first lot, and by July 1st they show the desired large, thick sprouts, and are ready to go into the ground. They are planted between the rows of the first planted lot. The first crop is harvested a few weeks later, and by that time the second lot shows already above ground. The first crop is dug with some care, and the second crop is to have its first hoeing right after. Mr. Jacobs claims to have raised 300 bushels per acre for the first crop, and 100 bushels per acre for the second crop. He uses the New Queen. My favorite early variety is still the Early Ohio. It gave me, last year, for one crop, nearly 300 bushels per acre, and did better, in this respect, than Bovee, Freeman and several others. I believe that for my conditions, and for a trial of this double cropping, the Early Ohio is ahead of anything in early potatoes we have.

Pickling Onions.—Probably the earliest and best of all pickling onions is the Barletta, or Adriatic Barletta, as sometimes called. Years ago we used the New Queen or White Queen for this purpose. It then seemed to be a larger and somewhat later onion than our present Barletta. And yet it may be that they are one and the same thing, or that the Barletta is simply a strain of the New Queen. A year ago I had both varieties side by side, and found no difference between them. Some seedsmen quote Barletta and Queen as two distinct and separate varieties. Others are quoting the Barletta, giving the names "New Queen," "White Queen," or "Early Pearl" as synonyms. Who is right? And what is the White Pearl or American Pearl so much grown as the earliest bunching onion, and as a pickling sort, at the South? How near are these three varieties related? A diameter of one and a half inches is about the largest size that I can obtain in the Barletta. Under especially favorable conditions specimens of nearly two inches diameter may occasionally be obtained. The New Queen's size is given as one and a half to two inches in diameter, and I believe the Southern Pearl grows still larger. In the Middle States it should be easily possible to grow two crops of Barletta on the same land, one to mature by July 1st, the other in the fall. The Barletta may possibly do for sowing during August in open ground at the North, to be wintered over in the open, and to make early bunching onions, though small ones, in early spring following.

Potting and Hotbed Soil.—For potting soil the mixture which I found was in use at the New York State Experiment Station (Geneva) is as follows: 3 shovels rotted sods, 1 shovel leaf mold, 1 shovel clear sand, 1 shovel old manure. These materials are thoroughly mixed together, and make an excellent soil for potting plants, or for greenhouse benches to grow almost any crop in. The rotted sods alone make a nice fibrous loam that holds moisture like a sponge. For cabbage plants or tomato plants I would wish nothing better, and would leave out the old manure, and possibly the leaf mold, too, applying in place of these things a small sprinkling of bone meal or superphosphate, and another of muriate of potash or fresh wood ashes. For hotbed soils, ordinary good garden soil, or rotted sods alone with some fertilizer as suggested, will do very well. A reader tells me that some kind of fungus makes its appearance in his hotbed, coming from the manure, and asks how its reappearance another year may be prevented. Fungi are always liable to appear in manure hotbeds, but they seldom do much damage. I know of no sure way to prevent their coming. But as a new lot of manure is to be used for the next season's hotbed, there is a possibility that fungi may not give any trouble whatever, or at least very little of it.

Early Cabbage Plants.—Usually we have started the early cabbage plants from seed in the greenhouse, sowing the first seed along in February, then transplanting the young seedlings into cold frames in March and to open air in April. We always thought it necessary to resort to the cold frame in order to harden the plants off sufficiently. Last year I tried a lot of plants grown altogether in greenhouse up to the stage of transferring to open ground. The soil used for this bench consisted of a very ordinary clay loam, fertilized with a little superphosphate and potash. The plants were taken up from the seed rows and pricked out on the bench an inch apart in the row, with the rows about 2 or 2½ inches apart. This gives 50 or 60 plants to the square foot. The plants grew slowly but appeared healthy and remarkably stocky. Of course, the temperature during February and March, in the greenhouse, was somewhat low, being adjusted to favor the healthy growth of forced lettuce. When taken out directly to the field, late in April (the season being a late one) they took hold as quickly as the plants from the cold frames that were presumably much more thoroughly hardened, and suffered no greater setback from the transfer than the others. I shall hereafter grow most of my early cabbage plants in the greenhouse, and do away with the cold frames for that purpose.

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Current Comments.

Celery in Georgia.—M G. Robert, of Washington, Ga., asks for instructions how to raise celery, what variety to plant for profit, where to procure best seed, how to manure it, and what is the usual profit per acre? It is easy enough to give general instructions about growing the crop, or where to get seed, etc., but rather difficult to tell the usual profit, as this ranges from less than nothing to more than $1,000 per acre. It depends on soil and atmospheric conditions, and, more than all, on management. My advice would be to try it on a limited scale at first. You can buy good seed of any reliable seed house, as, for instance, of Wm. Henry Maule, of Philadelphia. For early, select Golden Self-Blanching, for late Pascal or Evans' Triumph. Start plants of the former (Golden Self-Blanching) as early as possible in a well protected spot of very rich soil. Transplant into your celery patch when plants are of proper size, having the rows several feet apart, and the plants 6 or 8 inches apart in the rows. Then mulch heavily between the rows with coarse manure, covering the soil 6 inches or so deep with it. Irrigate if the season be very dry, and blanch by means of boards. Try this plan, anyway. For late celery start the plants later, or buy plants from the North. I would like to hear from any reader in Georgia who has grown celery with success.

NAMES OF FARMERS WANTED
The Valley Farmer wants names and addresses of farmers anywhere in the U. S. They want to get them interested in their big farm magazine, which now has a circulation of over 100,000 copies and is acknowledged to be the best farm paper in the West. The subscription price is 50c. per year, but if you will send them five farmers' names and addresses and ten cents in stamps or silver they will enter you as a subscriber fully paid for a whole year. Address
Valley Farmer, 89 Washington St., Chicago.

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JOHN W. C. PULLEN, Nurseryman, Milford, Del.

Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

What a Good Name Does.

A seed firm in Philadelphia showed the writer recently a memorandum bearing on some seed sales, showing what a good name did for his firm. It has been his custom for some years to make a note against a customer's name, showing in what way his name had been obtained. He had just received an order from England for some seeds, and the sender had mentioned another as having given him the seedsman's name. Tracing the matter back, he found no less than four persons, all of whom had bought seeds, and all of whom had been told of the good standing of the firm by a preceding one. Against the fifth one was a memorandum that he had applied for a catalogue, but it did not state how he knew of the firm. No doubt such cases are happening all the time, though not always so plainly followed up as this one. All good business men know that both moral and business law demand from them just treatment of their customers. As in every day life, the business man who is straight wins the race every time.

SAN JOSE SCALE and other insects controlled with *Caustic Potash Whale-Oil Soap No. 3.* Send for circulars.
James Good, 939 N. Front St., Phila., Pa.

Strawberry Plants. We have them true to name all grown on new ground, consequently, are healthy and strong. Send for cir. Address Fruitful Plant Farms, John Lightfoot, Prop., Sherman Heights, Tenn.

TREES. PLANTS. VINES. 150 acres of them. All kinds and varieties. Smooth, clean, strong-rooted stock at lowest prices. 33 years experience. Special terms to club makers. New catalog free. Write for it before you forget it.
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Corn Planting must be well and carefully done, as the future crop depends upon it. For all purposes, in any soil, on all kinds of ground nothing equals the SPANGLER CORN PLANTER.
It saves time, labor, money and insures the crop. You know when it is working; you can see the corn on its way to the ground. Made with or without fertilizer attachment. New device for sowing peas, beans, ensilage, corn, etc. We also make the famous Spangler Low-Down Grain and Fertilizer Drill. Write for catalog and circ.
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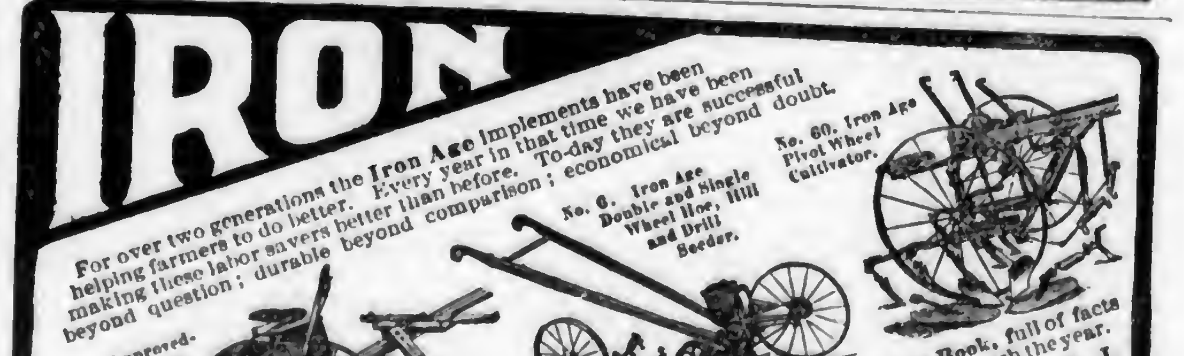
SPRAY—Your Troubles Disappear if you use a sprayer that automatically stirs the mixture and cleans the strainer. You have the easiest work in the field, get the finest spray and do more work by using the EMPIRE KING, ORCHARD MONARCH and CARFIELD Sprayers. They have the automatic agitators and strainer cleaning brushes. They never clog and they never burn nor spoil the foliage. These and other special features distinguish them from all other sprayers. Write for instruction book on spraying, formulas, etc. Mailed free.
FIELD FORCE PUMP CO., 6 11th St., Elmira, N. Y.


IRON AGE
For over two generations the Iron Age implements have been helping farmers to do better. Every year in that time we have been making these labor savers better than before. To-day they are successful beyond question; durable beyond comparison; economical beyond doubt.
Improved Robbins Potato Planter
No. 6. Iron Age Double and Single Wheel Hoe, Hill and Drill Seeder.
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Write to-day for a free copy of the new Iron Age Book, full of facts that will save you money, time and strength all through the year.
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Few People Know How Useful It is in Preserving Health and Beauty.

Nearly everybody knows that charcoal is the safest and most efficient disinfectant and purifier in nature, but few realize its value when taken into the human system for the same cleansing purpose.

Charcoal is a remedy that the more you take of it the better; it is not a drug at all, but simply absorbs the gases and impurities always present in the stomach and intestines and carries them out of the system.

Charcoal sweetens the breath after smoking, drinking or after eating onions and other odorous vegetables.

Charcoal effectually clears and improves the complexion, it whitens the teeth and further acts as a natural and eminently safe cathartic.

It absorbs the injurious gases which collect in the stomach and bowels; it disinfects the mouth and throat from the poison of catarrh.

All druggists sell charcoal in one form or another, but probably the best charcoal and the most for the money is in Stuart's Absorbent Lozenges; they are composed of the finest powdered Willow charcoal, and other harmless antiseptics in tablet form or rather in the form of large, pleasant tasting lozenges, the charcoal being mixed with honey.

The daily use of these lozenges will soon tell in a much improved condition of the general health, better complexion, sweeter breath and purer blood, and the beauty of it is, that no possible harm can result from their continued use, but on the contrary, great benefit.

A Buffalo physician in speaking of the benefits of charcoal, says: "I advise Stuart's Absorbent Lozenges to all patients suffering from gas in stomach and bowels, and to clear the complexion and purify the breath, mouth and throat; I also believe the liver is greatly benefited by the daily use of them; they cost but twenty-five cents a box at drug stores, and although in some sense a patent preparation, yet I believe I get more and better charcoal in Stuart's Absorbent Lozenges than in any of the ordinary charcoal tablets."

BEST SMALL FRUITS. Standard and Improved varieties of Raspberries, Blackberries, Gooseberries, Currants, Grapes, Strawberries, etc. Every plant grown and guaranteed by me. Ship only clean, vigorous, well rooted, fresh dug plants that give results. Write for late catalog
Allen L. Wood, Wholesale Grower, Rochester, N.Y.

MONEY IN STRAWBERRIES
IF YOU GET GOOD PLANTS. One of my customers the past season sold $600 00 worth of Strawberries from one acre. I sold him the plants for $20. You can do the same if you buy the best—and that's the kind I have. Catalogue!
H. LIGHTFOOT, Chattanooga, Tenn.

PUMP, THEN SPRAY. One at a time. 15 seconds pumping charges with enough air to run The Auto-Spray 10 minutes and cover ¼ acre. Perfectly Automatic, operator merely walks and directs nozzle. Spray from fine mist to solid stream. Any boy can work it. Brass working and contact parts make it perfect working and durable. For poultry houses, vines, trees, etc. Catalog A free. Shows the best line of all size, all purpose sprayers made. Write for agency.
E. C. BROWN & COMPANY, Rochester, N. Y.

Black Gilliflower Apple.

A correspondent, J. F. M., Ridgefield, Conn., sent us specimens of apples for a name, two of which we sent to the U. S. Department of Agriculture, with request for name. From G. B. Brackett, of the Department, we have received the following reply:

> Washington, D. C., Nov. 29, 1902.
> Mr. Joseph Meehan,
> Germantown, Philadelphia, Pa.
>
> Dear Sir.—I am in receipt of yours of the 26th instant, and the specimen apples from Bridgefield, Conn., and on examination of these specimens I find they are Black Gilliflower, an apple that varies a good deal in its colorings from light green with a few stripes, to a very dark red. In compliance with your request I am sending you more boxes and franks for specimens.
>
> With thanks for your co-operation, I am,
> Yours truly, G. B. Brackett,
> Pomologist.

One specimen retained and tested bore out the general character of this variety, viz., very good, but hardly as juicy as might be.

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Horticultural Queries.

An Acre of Plum Trees.—Kindly advise me what to do with an acre of plum trees to make them fruitful. Trees planted in spring of 1897; very large growth; look very hardy; Burbank and Satsuma; full of blossoms the last two years; full of buds now. Sprayed last year and got a dozen plums from the 250 trees. Some fruit formed but dropped before maturity. Location on brow of small hill. Good drainage; soil rather poor; farmed to potatoes last three years. Can't cultivate this year, as trees have grown nearly together. What fertilizer would you use, as I have no manure?
Churchtown, Pa. ROBT. E. SIMPSON.

Nothing would give me greater pleasure could I advise you in such a way as to result in your getting a plum crop. You describe the trees as growing well and flowering well. Evidently, then, you need no fertilizer. I think it is between you and the curculio. Should it be that no flowers set, or but few of them, it may be imperfect pollen is the trouble. The orchards of plums in New York State, which were so famous for their production of fruit, were successful for years because of the destruction of the curculio insect by jarring the trees every morning, killing all of the insects that fell on the sheets spread to catch them Between spraying and jarring I think you should succeed in getting a crop of fruit.

Grafting.—Last spring I started a small nursery. I planted the grafts so that the joint of scion and stock was about an inch or two below the surface of the ground. The No. 18 waxed knitting yarn I used for tying did not rot away fast enough as the graft grew bigger, and I had to cut the yarn. This was very troublesome, because they were planted so deep. I wrote you at that time regarding this. You advised me to plant so that the joint would be above the ground, but how do you protect the wound from drying out? Would it not be a good idea to graft about one inch above the crown of the root and plant just deep enough to cover the roots good, so that when planted in the orchard nothing but the seedling gets in the ground. H. G. GEIGER.
New Melle, Mo.

What you propose to do, viz., graft just above the root, is the proper way, and is what I suggested last year, I think, so that the root part is in the ground in the same condition as it would have been if undisturbed. The old style grafting under which I learned demanded a tying of the graft with a piece of bass matting to hold the scion tight; then the whole surface was waxed over, so that no portion of the cut was exposed to the air. When set out in spring the waxed part was just below ground, and I do not think we ever had to cut the bass, but that it rotted away. If properly tied or waxed so that all the cut parts are covered you could plant as you suggest, to have the waxed part entirely above ground.

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Horticultural Notes.

Fuchsias are supposed to be incapable of blooming all summer, but stand them in a place shaded from the afternoon sun and they flower all summer long. Cuttings should be rooted about New Years to have big plants by May.

Russian Apricots.—A Nebraska correspondent says the Russian apricot does well with him, bearing good crops of fruit. In the Eastern States late frosts are apt to catch the early blossoms, and besides this, it has to run the gauntlet of the curculio. And then Californians send us the fruit at such a reasonable rate.

◆

Pneumonia may be averted with Jayne's Expectorant.

POULTRY.

This department is under the editorial charge of A. F. Hunter. All letters, inquiries and requests should be addressed to him at the Practical Farmer office, P. O. Box 1317, Philadelphia.

Are the Hens Laying?

If not, why not? If they are not laying it is your fault, because they certainly will lay if given a chance; they will lay because "it is their nature to." These thoughts came to mind while looking over a December egg account which shows a very satisfactory egg yield and a cash return that is highly satisfactory to the owner; almost any farmer would be satisfied with a net profit of $87 in one month, and that the usually dull month of December.

The fowls that did this good laying were 380 in number, 90 of them being year-old hens, and 290 being pullets. They were housed in two long poultry houses, which were divided into pens twelve feet square, and (about) fifteen birds were put in each pen; this gave them practically ten square feet of floor space per bird, which is an unusually liberal amount, but as the one pen is dining-room, living-room and bedroom combined, it pays to be liberal. The total egg yield for each day of the month was as follows:

Dec. 1..111	Dec. 17..116
Dec. 2..105	Dec. 18..142
Dec. 3..112	Dec. 19..142
Dec. 4..127	Dec. 20..120
Dec. 5..117	Dec. 21..147
Dec. 6..124	Dec. 22..120
Dec. 7..123	Dec. 23..152
Dec. 8..115	Dec. 24..140
Dec. 9..120	Dec. 25..132
Dec. 10..143	Dec. 26..136
Dec. 11..109	Dec. 27..150
Dec. 12..125	Dec. 28..136
Dec. 13..132	Dec. 29..118
Dec. 14..127	Dec. 30..125
Dec. 15..129	Dec. 31..136
Dec. 16..126	
	Total...3,957

This is an average of almost ten and a half eggs per bird for the month, and quite as much as can reasonably be expected; if one is getting a one-third egg yield in December he is getting all that he can reasonably expect, many of the old hens have not then recovered from the drain of the moult, and pullets do not, as a rule, produce an egg every other day in early winter. There was one pen of pullets that did, and that was a pen of cross-bred pullets, a cross of Brown Leghorn male on Light Brahma females. These birds laid an average of fifteen and a half eggs apiece in the thirty-one days—exactly a 50 per cent. egg yield. A pen of thoroughbred White Wyandotte pullets was a very close second, they having laid an average of fourteen and a half eggs apiece in the month. It is easily seen that the pullets do the bulk of the laying, and the highly satisfactory egg-yield is mainly to be credited to them. The 290 pullets laid 3,373 eggs, an average of (practically) eleven and two-thirds eggs apiece, while the 90 year-old hens laid but 584 eggs, which is (practically) six and a half eggs apiece, a very striking difference in favor of the pullets. The eggs were sold to the village grocer, whose team took them at the door, and the price has been forty cents a dozen for almost the entire month; the market value of those December eggs was $130. It costs about $1.35 to feed a fowl a year and feed her well, which is 11¾ cents a month, making the cost of feeding these 380 birds for that month $42.75 and leaving a net profit of $87.25; that is a pretty fair return for one month's work, and that the usually dull month of December.

There was no "happen so" about those December eggs; they were planned for by hatching the chickens early in the spring (in April), and then keeping the pullets growing so they came to laying maturity in October. The farmer plans for his big crop of corn, wheat, potatoes or hay by thoroughly plowing and manuring his land and then carefully cultivating the growing crop, the abundant harvest is planned for and then worked for. It is exactly so with a good harvest of eggs and the profit that comes from them; they are planned for and worked for and "the hens do the rest."

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Druggists sell the remedy under the name of Stuart's Catarrh Tablets and it has met with remarkable success in the cure of nasal catarrh, bronchial and throat catarrh and in catarrh of the stomach.

Mr. F. N. Benton, whose address is care of Clark House, Troy, N. Y., says: "When I run up against anything that is good I like to tell people of it. I have been troubled with catarrh more or less for some time. Last winter more than ever. Tried several so-called cures, but did not get any benefit from them. About six weeks ago I bought a 50-cent box of Stuart's Catarrh Tablets and am glad to say that they have done wonders for me and I do not hesitate to let all my friends know that Stuart's Catarrh tablets are the right thing."

Mr. Geo. J. Casanova of Hotel Griffon, West 9th street, New York City, writes: "I have commenced using Stuart's Catarrh Tablets and already they have given me better results than any catarrh cure I have ever tried."

A leading physician of Pittsburg advises the use of Stuart's Catarrh Tablets in preference to any other treatment for catarrh of the head, throat or stomach.

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Published Weekly by The Farmer Co.
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Philadelphia, Pa.
Entered at the Philadelphia post office as second-class matter.
PROF. W. F. MASSEY, Editor.

Philadelphia, January 31, 1903

Seeds and the P. F.

THE business management has made it a point every spring for several years to give a due bill, good for one dollar in seeds, plants or bulbs, and the P. F. for a year for only $1.25. Our readers will find this announcement on the Garden page this week The management tells us that it has sent out thousands of these due bills during the last few years to the satisfaction of everyone receiving them. It could not be otherwise, as the seeds are selected by the person to whom the due bill is sent, from the catalogue of one of the most reliable seedsmen in the country. Just now when our readers in a large section of the country are getting ready for spring planting, these due bills are the same as cash. You get the P. F., in connection with the due bill, for a whole year for only 25 cents. The due bill and the P. F. is a combination which we can recommend to everyone who will use seeds this coming spring.

◆

THE Missouri Station found that the heaviest lambs at birth were from the heaviest ewes, and that these heaviest lambs at birth gained faster in weight than those of lighter weight at birth.

◆

WE are glad to notice that the Pennsylvania Dairy Union endorsed the action of Secretary of Agriculture Wilson in enforcing the law requiring all renovated butter to be marked and branded so as to make it known on the market. This is the stuff we suppose the Prairie Farmer refers to as being collected by dealers and worked over. This should go under the oleo law.

◆

THE Pennsylvania Station found that there was no advantage in having water constantly before the cows in the stable. Cows turned in the yard once a day made as good returns as those having constant access to water in the stables. Much more bedding is needed to keep cows clean in pens than in stalls, but less labor was required to care for the cows loose in pens than in stalls, and the larger amount of bedding would result in a larger manure pile. The milk of the cows standing in stalls had fewer bacteria in it than that of cows in pens

◆

Congressional Seeds.

Our Congressman has sent us a package containing a little packet each of Dwarf Green okra, long since superseded by the White Velvet; one of Kolb's Gem watermelon, which the Georgians grow to ship North and to feed to pigs, while they grow better ones for home use, for Kolb's Gem is, among watermelons, as the Ben Davis among apples, good to ship, and pretty to look at, but of poor eating quality; one of Big Boston lettuce, of which thousands of barrels are being shipped North now, and one of Early Egyptian beet. All of these are common garden seeds and can be had in any quantity from the regular dealers. Along with these we got a larger package of White Dent corn, which is said, on the paper, to be used throughout the South for roasting ears, but is not equal to the Adams. It must be awfully poor eating, then. Farmers in the South are apt to eat the corn from the field when they should plant a good variety for the table. While extra early sweet corn does not thrive in the South, there are varieties that do, and we had rather have one ear of Stowell's Evergreen than a dozen of the White Dent, for table use. The whole consignment of seeds in the package could be bought for about 15 cents. We thank the Congressman for the attention but we will plant seed from reliable seedsmen. We never trust the Congressional seeds, and usually give them away to someone who has more faith in them. The corn will help our chickens perhaps.

◆

Lime, Sulphur and Salt for Scale.

The success that has attended the use of this California mixture in keeping the San Jose scale and other insects in check has created an interest in the process, and inquiries are coming in in regard to the making of it. It also has been used successfully in California in the destruction of the peach worm. We take the following from Bulletin No. 144 of the California Station: "The formula as successfully used in Placer county region this season is as follows:

Lime	40 pounds
Sulphur	20 pounds
Salt	15 pounds
Water to make	60 gallons

Boil ten pounds of the lime and 20 pounds of sulphur in 20 gallons of water for from one and a half to two hours, or until the mixture is a deep amber color, which will indicate that the sulphur is dissolved. The balance of the lime, 30 pounds, should then be slacked in another vessel and the salt added to this latter mixture. This should be stirred till the salt is dissolved and then added to the original mixture of lime and sulphur, and the whole boiled for from thirty to forty-five minutes longer. Then strain the mixture into the spray tank and apply to the trees HOT. Do not let the mixture get cold, for a portion of the ingredients will then crystallize and precipitate out of the liquid, and its effectiveness is much reduced." The boiling is done in the large cauldron that can be either suspended or set in brickwork. The important point is to cover every part of the tree with the mixture. The work is done while the trees are leafless. It has been found that this mixture, while not killing all the scale insects at once, will keep up its work and finally get them. We propose to use this mixture this season and may have more to say about it later.

◆

Institutes of Entertainments.

An Institute Director who is doing capital work in this line, and who is employing the best attainable talent in the country, for the purpose, writes that his Institutes are well attended and are being made business meetings for practical help to farmers, and not mere social entertainments. In the same mail we get a pamphlet containing a list of premiums and a program of an Institute held in the Central West in December. The premiums were as plentiful as for a county fair, and these were all right, perhaps. But the program showed that while here and there were some addresses intended for practical instruction, a large part of the time of the Institute was taken up by recitations for amusement, prize essays by school children that would have been all right at a school entertainment, but were out of place at an Institute. The whole meeting of three days seemed to be contrived more as a social entertainment than for the practical help to the men on the farms or the women either, for that matter, though some time was given to the matter of domestic economy. There is in many places too much of a tendency to pervert the purposes of an Institute to the mere passing amusement of the crowd. This, too, tends to crowd the room with those who have no special interest in the development of the agriculture of the section, and to make a sort of show and a hurrah of the whole thing. The Institute should be regarded as a school and should advance in its methods from year to year, so that it will be a real means for the enlightenment of the farmers and their wives and the development of improved practices in the farm and the home. There is no objection to a little music, but dialect recitations, addresses of welcome and responses take up time that could be more profitably used in the real work of the occasion. An Institute is no place for men to show off oratory or to amuse a crowd with funny speeches or compliments to those who come or those who entertain. These can be taken for granted, and let the school get right at its work. Neighborhood entertainments and speeches are all right in their place as a social thing, but their place is not in an Institute intended for agricultural advancement.

◆

Good Roads.

One of the most important bills introduced at the present session of Congress, so far as the farmers are concerned, is the bill introduced by Mr. Brownlow, entitled "A Bill to Create in the Department of Agriculture a Bureau to be Known as the Bureau of Public Roads, and to Provide for a System of National, State and Local Cooperation in the Permanent Improvement of the Public Highways." The bill provides a Director of the bureau, an assistant Director, a chief clerk, a stenographer, a clerk, a messenger, four field experts, four civil engineers, four road experts, one assistant in charge of road material laboratory, one engineer, one chemist, one petrographer and such other officers and servants as the Director may from time to time require for the purpose of carrying out the law. The bill appropriates $75,000 for the carrying out of the work. The Director is to make inquiries in regard to road building and management in all parts of the country, make experiments with materials for the purpose, to co-operate in the building of object-lesson roads in the several States, to employ local agents and assistants in making experiments and collecting data and reporting on the same, to investigate the road materials and their nature chemically, and to publish bulletins, pay freight and express charges and traveling expenses and assist the Colleges and Experiment Stations in disseminating information in regard to good roads. He is to cooperate with the States in the actual construction and improvement of roads on application outside cities and incorporated towns, the Director to be the judge of the importance of such work for travel and rural free delivery. The bill provides how the Director shall proceed in preparing plans and forwarding the proposed improvements, and if determined upon one-half the expense shall be paid by the Treasury of the United States on the requisition of the Director and the warrant of the Comptroller, and half by the State and county. This is the general tenor of the bill. No measure of recent date means so much to the farmers in all parts of the country, provided its execution is made without favoritism for select localities. We hope that the bill will become a law and that the law will be efficiently carried out and the States stirred up to the importance of good roads, and the opportunity presented for getting the help of the General Government in their construction. The Director should be a man of great capacity and broad views, and without a tendency to favor particular localities to the neglect of the poorer States.

◆

The Cream of the Bulletins.

New York Agricultural Experiment Station, Geneva, N. Y. Report of the Analysis of Commercial Fertilizers for 1902. By L. L. Van Slyke and W. H. Andrews. Bulletin 216. Report of the Connecticut Agricultural Experiment Station for 1902, Part I. Fertilizers.

The New York bulletin gives the trade price per pound of the plant food elements in raw materials as follows: Nitrogen in ammonia salts 16½ cents; nitrogen in nitrates, 15 cents; organic nitrogen in fish scrap, meat and blood, 16½ cents; organic nitrogen in fine bone and tankage, 16 cents; nitrogen in coarse bone and tankage, 12 cents; phosphoric acid, water soluble, 5 cents; phosphoric acid, citrate soluble, 4½ cents; phosphoric acid, insoluble, 2 cents; potash, high grade sulphate, 5 cents; potash in muriate, 4½ cents. The average price to consumers in mixed fertilizers is as follows: Nitrogen, 20.8 cents per pound; phosphoric acid, 6.1 cents; potash, 5.7 cents. The average difference between the selling price and the price of materials is $5.38.

The Connecticut report gives the fertilizer law in full. The samples analyzed were collected by the sampling agent of the Station, and the rules are stated that no analysis will be made from a dealer's stock of less than a ton, nor from stock left over from the previous season, nor from stock that has been improperly stored, as in lying on wet ground and exposed to weather. Samples sent by farmers must be taken in strict accordance with the Station's instructions for sampling, and properly certified to. A full chapter is devoted to the explanation of the elements in fertilizers so that farmers can understand the terms used. The valuation of the fertilizers is calculated on the retail cost for expenses of manufacture and sale. The trade value of materials is essentially the same as that quoted from the New York bulletin. The general estimate of manufacturers is that mixing, bagging, handling, etc., cost $3 to $4.50 per ton. All the samples of nitrate of soda examined were of good quality and the cost of nitrogen ranged from 12.7 to 15.8 cents per pound. In sulphate of ammonia the nitrogen cost 17.2 cents per pound. In dried blood the nitrogen cost 15.2 to 17.7 cents per pound. The average cost of cotton seed meal has been $27.64, or a dollar and a half higher than the previous year. The cost of nitrogen in cotton seed meal ranged from 14.4 to 18.8 cents per pound. No adulteration was found in the samples of cotton seed meal. In castor pomace the nitrogen cost from 16.7 to 26.2 cents per pound, and the Station says that the price per ton for castor pomace is, as a rule, out of all proportion to its value as a fertilizer. In dissolved bone black the phosphoric acid cost from 4.3 cents to 6.8 cents per pound, but careful buyers have had it for less money. One sample of sulphate of potash sold at $50 per ton, furnished potash at a cost of 5.6 cents, which makes it economical for tobacco. The cost of potash in the muriate varied from 3.8 cents to 4.6 cents per pound. The various bone manures offered sell at an average of $29.42 per ton, while the Station average valuation is $25.62. Both the Stations note deficiencies in some things below the guarantee of the manufacturer. As a result of investigations the Connecticut Station says that the figures show that, as a rule, the fertilizers sold at the lowest price furnish the essential plant food at a higher price than in the higher priced goods. Inferior materials are generally found in the cheaper goods. In regard to home mixtures the Station says that the difference between cost and valuation is much lower than in the average factory mixed goods. The mechanical condition of the mixtures was all that could be desired. The statement made by interested parties, that a proper mixture of the ingredients in a fertilizer can only be made by the use of mixing machinery, is absurd. In the analysis of wood ashes when the soluble potash is valued at 7½ cents as a carbonate, and the phosphoric acid at 4 cents per pound, the lime in the ashes cost 32 cents per 100 pounds. In leached wood ashes the lime cost $1.07 per 100 pounds, and the Station thinks they cannot be used at a profit. The Connecticut report is a very complete discussion of the whole fertilizer subject and should be of great value to the farmers of that State.

Our Business Corner

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HENRY HARRIS, Business Manager.
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Explanatory.

In the hurry of adding new names, changing credits on renewals and cutting off the names of those who fail to renew by January 1st, there are of necessity, some errors. And by reason of those errors it sometimes happens that a name, that should be dropped from the mailing list, remains on for a few weeks, either until notified by the owner of the name, or removed after a more careful examination of the list, made by the office force after the hurry incident to the first of the year has passed. But in all such cases where such errors are made, the person who is still receiving the P. F. after the expiration of his subscription, is not expected to pay for the extra copies thus sent. That loss falls on the publishers. Let it be understood distinctly that a subscriber pays for the P F. only for the time for which it has been ordered. If by some error it is sent to him beyond that time, as indicated by the address label on the paper, it will be discontinued as soon as the error is discovered, and he will never be called upon to pay a red cent for the extra numbers. We are led to make this explanation by reason of a letter received from a North Carolina subscriber, who uses two sheets of legal cap paper to call us pet names, because his copy of the paper was not discontinued at the expiration of his subscription. He doubtless felt relieved after having thus unloaded, and we are much obliged for our attention having been called to the error. In asking your friends to subscribe for the P. F. you can assure them that they will not be called upon to pay for more than the time of their subscription, and you can use this paragraph as a guarantee to that effect from the publishers to every person asked to become a subscriber to the P. F.

Those clubs of six are coming in right along. We appreciate what our friends are doing for us this season, and hope that every well wisher of the P. F. who has not raised one of the 6-name clubs will start in now. The united efforts of our friends will put the P. F. into a good many thousand farm homes where it is now a stranger. Sample copies and subscription blanks? Yes, free for the asking.

COMMERCIAL

Philadelphia, Jan. 24, 1903.

WHEAT.—

The market was stronger under light offerings and bullish speculation in the West, and prices advanced ½c. per bushel. There was considerable export inquiry, but business was restricted by the indifference of sellers. The world's visible supply, as calculated by Bradstreet's showed a decrease of 2,517,000 bushels.

No. 2, red	80½@	81
No. 2, Penna. and Del.	81½@	82

CORN.—

No. 2, yellow	54 @	55

OATS.—

Offerings were fairly liberal, and the market was barely steady under a light demand.

No. 2, white clipped	42 @	42½

BUTTER.—

The market was weak and unsettled, under a slow demand and liberal offerings, and, with lower reports from other markets, prices declined ½c. on solid-packed and 1 cent on prints. Extra creamery sold in a wholesale way at 26c., and it was difficult to exceed this figure, except for small lots of high scoring goods. June creamery was 1c. lower, in sympathy with the late downward movement in values of fresh goods, and ruled dull. Prints sold slowly, even at the decline, and the market closed weak.

Best prints	26 @	27
Firsts, creamery	25	
Seconds, creamery	23 @	24
Ladle packed	17 @	20

CHEESE.—

Full cream, choice, small	14 @	14¼
Full cream, fair to good	13½@	13¾
Part skims	10 @	12

LIVE POULTRY.—

Fowls, per lb.	12 @	13
Spring chickens, per lb.	11 @	13
Ducks, per lb.	14 @	15
Geese, per lb.	12 @	14
Turkeys, per lb.	14 @	15

DRESSED POULTRY.—

Fowls, per lb.	11 @	13½
Chickens, per lb.	12 @	15
Turkeys, per lb.	16 @	20
Ducks, per lb.	15 @	18
Geese	11½@	13

EGGS.—

Receipts of new-laid eggs were moderate, but buyers lacked confidence in view of the milder weather, and as holders were more anxious to sell, prices declined ½c. A few early sales of choice stock were reported at 26½c., but this figure was hard to reach, and most holders subsequently accepted 26c, rather than miss sales. The market closed quiet and barely steady at the decline. Refrigerator stock was in ample supply and quiet at former rates.

Nearby fresh	26	
Western, choice, loss off	26	

FRESH FRUITS.—

Apples, per bbl.	1.50 @	3.50
Cranberries, Cape Cod, bbl.	11.00 @	12.00
Cranberries, Jersey, crate	3.00 @	3.50
Oranges, Fla., per box	2.75 @	3.50
Grape fruit, Fla., per box	2.00 @	5.00

VEGETABLES.—

White potatoes, Pa., per bu.	68 @	70
White potatoes, West., bu.	60 @	65
Sweet potatoes, Jer., bas.	60 @	65
Cabbage, per ton	5.00 @	8.00
Onions, per bbl.	1.75 @	2.00

BEANS AND PEAS.—

Marrows, H. P., per bu.	1.75 @	2.72½
Pea beans, H. P.	2.35	
Red kidneys	3.00	
Green Peas, per bu.	1.60 @	1.65
Scotch Peas, per bu.	1.70 @	1.75

HAY AND STRAW.—

Timothy, choice, large bales	20.50 @	21.00
Straw, straight rye	15.50 @	16.50
Straw, tangled	10.50 @	12.00
Wheat	10.50 @	12.00
Oat	9.50 @	11.00

FEED.—

Bran, bulk, winter, per ton	20.00 @	20.50
Bran, sacked, spring	20.00 @	20.50

COTTON.—

Middling upland, cwt.	8.95	

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle lower.

Extra steers	5¼@	5¾
Good steers	4½@	5
Medium steers	4¼@	4½
Common steers	4 @	4¼

CALVES.—

Veal calves firm and active.

Extra calves	9¼@	9¾
Fair to good	7½@	8¾
Poor and common	6 @	7
Grassers	2½@	3

HOGS.—

Hogs about steady for good grades.

Fat hogs, Pa., Del. & Md.	7 @	8½
Fat hogs, Western	8¾@	9¼

SHEEP.—

Sheep and lambs lower.

Sheep, extra wethers	4½@	5
Sheep, good	4 @	4¼
Sheep, medium	3½@	3¾
Sheep, common	2½@	3
Lambs	4½@	6½

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New York, Jan. 24, 1903.

WHEAT.—

No. 2, red	82⅞@	83⅛
No. 1, Northern Duluth	89⅜	

CORN.—

No. 2	63 @	64
No. 2, white and yellow	61	

OATS.—

No. 2, white	44¼	

HAY.—

Prime, large bales, 100 lbs.	1.05	

BUTTER.—

Receipts, 8,159 packages. Trade has been very dull, and with stocks accumulating in hands of receivers, it has been impossible to effect clearances. At the reduced prices there was slight improvement in demand, but buyers operated conservatively and confined their orders mainly to current requirements. Western imitation creamery was inactive on all grades excepting choice. Factory butter, contrary to other sorts, was unchanged. Renovated stock was plentiful at 21 cents. Fresh rolls dull.

Creamery, extra	26	
Creamery, firsts	24 @	25
Creamery, seconds	22 @	23
State dairy, tubs, fancy	24½@	25

CHEESE.—

Receipts, 6,837 boxes. The general position of the market remains unchanged. There is steady demand for the finest grades and it is difficult to secure small colored under 14½c., but white is freely offered at 14¼c. Cheap cheese is being inquired for by shippers, but supplies are very moderate and the prices asked tend to check any large lines from changing hands. Skims show firmness.

Full cream, small	14¼@	14½
Full cream, choice	13¾@	14
Light skims, small, choice	12¼@	12½
Light skims, large, choice	11½@	12

LIVE POULTRY.—

Ducks, per pair	80 @	1.00
Geese, per pair	1.50 @	1.87
Fowls, heavyweights, per lb.	14	
Turkeys, per lb.	14 @	15

DRESSED POULTRY.—

Spring turkeys, selected, lb.	18 @	20
Spring chickens, per lb.	15 @	25
Spring geese, per lb.	10 @	12½
Fowls, good to prime, per lb.	12 @	14
Squabs, poor to prime, doz.	2.00 @	3.75

EGGS.—

Receipts, 6,744 cases. The egg market became somewhat demoralized yesterday with liberal receipts and prospective heavier supplies in the near future. Trade lately has been disappointing and with lower markets in the Western and Southern points the slump in the local market was well warranted. Fresh eggs, closely candled and graded, sold at 25c.; average best, 24c. at the mark. Where transactions were on basis of loss off, 27c. ruled. Refrigerator eggs were weaker in sympathy with fresh and dropped ½@1c. per dozen. Limed eggs dull and lower.

State and nearby	24 @	30
Western	23 @	25

GREEN FRUITS.—

Apples, per bbl.	1.25 @	4.00
Cranberries, per bbl.	9.00 @	12.00
Cranberries, per crate	2.50 @	2.75
Grapes, per case	1.00 @	1.50
Grapes, per bas.	10 @	15
Oranges, Florida, per box	2.50 @	3.50

POTATOES AND VEGETABLES.—

Potatoes, Jer. per bbl.	1.75 @	2.00
Penna. & Western, 180 lbs.	1.85 @	1.90
Sweet potatoes, per bbl.	2.75 @	3.75
Celery, Western, doz. bun.	65 @	75
Onions, per bbl.	1.50 @	5.00
Cauliflowers, Western, crate	2.50 @	3.00
Turnips, Russia, per bbl.	90 @	1.00
Spinach, per bbl.	75 @	1.25

AGRICULTURAL FERTILIZERS.

AMMONIATES.

Nitrate of soda, per cwt.	1.97½@	2.00
Sulphate ammonia, per cwt.	3.60 @	3.10
Tankage, per unit ammonia	2.10 @	2.12½

PHOSPHATES.

Acid phos., 12-16 p. c., unit.	60 @	67½
Bone black, spent, 1,000 lbs.	16.00 @	18.00
Ground bone, steamed, ton	19.50 @	20.50
Ground bone, raw, per ton	21.50 @	23.50

POTASH.

Muriate potash, 80 p. c., future shipment	1.83 @	1.86½
Manure salt, high grade (90 to 95 p.c. sulphate potash)	2.11 @	2.14
Manure salt, double (48 to 49 p. c., less than 2½ p. c. chlorine), per lb.	1.11 @	1.13½

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WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.

XX and above	30@32
X	27@29
Medium	30@32
Quarter blood	29@30
Common	26@28

UNWASHED (light and bright.)

Fine	19@22
Medium	22@23
Quarter blood	22@23
Coarse	19@21

UNWASHED (dark colored.)

Fine	15@16
Fine medium	16@18
Medium and quarter	18@19
Coarse	16@18

COMBING AND DELAINE FLEECES.

Washed fine Delaine	32@34
Washed medium	30@32
Washed low	29@31
Washed coarse	27@28
Unwashed medium	23@25
Unwashed quarter blood	23@24
Braid	20@22

Our Winter Subscription Campaign.

For several years we have been offering cash prizes for the largest clubs sent us by our friends, within certain time limits, in addition to our regular cash commission. We find that in many instances the regular subscription price of the P. F. has been cut by some of our agents in the keen competition which has resulted from a desire to get the top prizes. This, in turn, has led to difficulty in securing the renewal of these cut subscriptions at full rates, and renewal subscriptions have been lost in this manner. For this, and other reasons, we have decided to discontinue all cash prizes and commissions and offer only our Blocks of Six, which have been so popular during the past few months. In clubs of six yearly subscriptions sent at one time, the subscription price is 50 cents, three dollars paying for the six subscriptions. The subscriptions may be new or old, and the subscription of the club raiser may be included in the six. In other words, a present subscriber can send his own yearly renewal and five other yearly subscriptions, new or renewals, and $3.00 pay for the same. Each friend who sends us one of these clubs of six, can have the choice of any one of the following 13 premiums :

Our $1.00 Seed, Plant or Bulb Due Bill.
Our Great McKinley Book.
Terry's "Our Farming."
Massey's New Book, "Crop Growing and Crop Feeding."
Greiner's New Book, "The Garden Book."
Greiner's, "How to Make the Garden Pay."
Prof. Voorhees, "The First Principles of Agriculture."

Warren's Book, "200 Eggs a Year per Hen; How to Get Them."
The Horse and Cattle Doctor Book.
A Year's Subscription to The Practical Farmer.
A Practical Farmer Guaranteed Knife.
A Year's Subscription to the Thrice-a-Week World or Hoard's Dairyman.
"Dairying for Profit, or the Poor Man's Cow."

Outside of these clubs the subscription price of the P. F. will be $1.00 per year. Any person sending us 50 cents will receive the paper for 6 months only. Our single subscription price is $1.00 per annum, no more, no less.

Now friends, we believe this to be the fairest proposition all round. And we ask your hearty co-operation in making our Winter subscription campaign a success. We thank you for your successful efforts in the past, and especially for the help you have rendered us during the past year. We want to make the P. F. a still greater force in American agriculture, and we want you to help make it so. It's going to be better than ever during 1903, and if you will help us to put it into thousands of new homes, you will not only help to extend its usefulness, but at the same give us the sinews of war to give you a better P. F. than ever before.

THE FARMER CO., Market & 18th Streets, Philadelphia.

☛ **50 cents pays for the P. F. six months, $1.00 for one year, but $3.00 will pay for six yearly subscriptions, including your own. This is our 1903 campaign in a nutshell.** ☚

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Prize Offer.

One dollar each for the best four articles on either poultry raising, fruit raising, market gardening or spring care of horses, that reaches our desk before March 11, 1903. In treating of the first subject, give experience in both natural and artificial incubation. We want facts and figures. The second subject refers to small fruit. Under the third heading give us hints for hotbeds and the like; also figures that show the actual profit of market gardening. The fourth subject is one of vital importance. Change from winter fare, winter quarters and stand-still experience to the rush and weariness of the spring work is a crisis in the life of every farm animal. Give us intelligent notes along this line. Let no article, on any subject, exceed five hundred words. Let all enter this little competition, not for the small prizes, but for the good we may do.

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Editorial Chat.

Much has been said in these columns in regard to letting a child follow his or her own inclinations as regards life work.

Many of you, doubtless, read a story that appeared in Harper's a few years since, entitled, "A Mother in Israel." We chanced on it but recently, and it seemed to solve the problem. A Russian Jewess had two sons—Baruch and David. She was herself a queenly woman of large mind, refinement, beauty, ambition and some education. Just how she came to be united with her husband, Judah, does not appear, but the union was perhaps no more unsuitable than those being entered into every day. He was, in looks, manner and mind, a typical Jew, of the sort one turns shrinkingly from when, by chance, we meet. Baruch was comely and noble like Rachael; David the counterpart of his father. The great, overweaning ambition of the mother's life was to see her sons educated—college bred. The idea was obnoxious to the father, who, aided by the Rabbi, worried and tormented her until at last Baruch accompanied his father to the shops; and she saw him daily growing stooped and stupid like the others. But for some reason she was partial to David, not that she loved him more than his brother, but she had the notion that he was more likely to become a great scholar. With unwearying patience she taught him all she knew—or rather, tried to teach him—of mathematics, the languages and music, but he was shallow and dull—save at mathematics—and hated study. The one satisfying joy of Rachael's life was her piano—a fine old instrument brought from her girlhood home—from which she evoked most wonderful strains of music. When David was sixteen his father's health partially failed and he brought the Rabbi to assist him in compelling Rachael to let the lad go to work, to in part relieve him.

The mother's terror and agony were something pitiable; but she tried to plead and argue her case. Judah thundered in her ears the old Jewish law as regards a wife's duty to obey, then, overcome by his own angry excitement, he fell dead at her feet.

A few days after this, while she was consoling herself with her piano and the singing of psalms, in which Baruch's voice grandly blended, the officers came to tell her that she and her sons must leave the country at once. Forty-eight hours was the limit. Cold and unfeeling were the messengers. One man, however, offered a paltry pittance for the piano, but in her righteous indignation and deep love for the instrument, she reached for an ax and reduced it to a shapeless ruin.

Some friends contributed aid and the family finally reached New York penniless. The struggle for a start toward a livelihood is affectingly depicted, but when a good offer to join a colony of their countrymen was made them, Rachael flatly refused to go where David could not get a university education. Finally Baruch started out with a peddler's pack, and a learned Jew undertook to give David private instructions; but it was no use—Baruch could not sell, and David could not learn. Baruch fell ill and the teacher suggested that David try peddling. With great reluctance his mother let him go "just for one day."

Wildly delighted, and for the first time in his life interested, the lad adorned his person with suspenders, collar buttons and other samples of his pack and gaily sallied forth—a walking advertisement. And he sold, coming home wild with delight. That night he openly rebelled and Rachael said he should never go out peddling again; Baruch must do that, David must be the scholar.

The next morning when she arose David and the pack were gone, and years passed before she saw or heard of him again. Meanwhile the learned Jew persuaded her that Baruch could be educated, though she never really believed it until one eventful night when she attended the great commencement and heard and saw her son, the most brilliant graduate there. It was while offering her proud, tearful congratulations to him that a prosperous, flashily dressed man stepped between and jauntily announced himself as "David, a broker in Chicago," adding that he had plenty now and she would nevermore know want, and she never did—for she died then and there of overjoy — or so the story said. (The profession would today pronounce it heart failure, you know.)

The lesson remains. She spent her life trying to prevent nature and came near ruining two lives besides her own. The Lord only makes an occasional nondescript; for the most part He gives people "bents." Be careful that you don't thwart His plans to carry out some pet idea of your own. At this day and age, when trades are despised and everybody's boy goes to college because everybody's else boy does, a lot of good material is being wasted. Not that the college education is amiss, only misdirected. Know what you are educating the boy for, and not waste years stuffing a mechanic with theology or trying to make a lawyer out of a farmer. Just use a little common sense.

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Another Request.

MRS. C. COOK.

Some time ago I saw a request in the P. F. by Mrs. Dornblazer, asking information about her long lost brothers, so I thought I would write also and ask if any reader can tell me anything about Joseph Cook, whether dead or alive? He left home fifteen years ago, and a year later we received a letter from him from Denver, Col., but he intended to go to Wyoming. Will be much obliged for any information about him. It was through me that Mrs. Dornblazer found her brothers. Address, Mrs. C. Cook, R. R. 1, Peoria, Ill.

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In the Kitchen.

Here is an item for the kitchen, albeit we learned it in a drawing room the other evening, and our informant was a professor of Greek, who was ostensibly enlightening us on Grecian art and sculpture. As a prelude, he said, he would tell us a little about the currant gardens that lined the way as he journeyed to Athens and Olympia.

Grecian art was perfectly lucid to us so long as he confined his description to English currants. Yes, and this was what we set out to say: English currants come from Greece and are nothing more nor less than tiny grapes; and he said we would not wonder it is such a task to wash them clean could we see them prepared and finally shoveled up, sand, dirt and all, with a scoop shovel.

* * * * * * * *

Mrs. J. Fuge, Chilton, Wis., writes: Try removing hard encrustations that form on pitchers or other vessels in which well water is allowed to stand, by putting in vinegar or sour milk, and let stand for a while. It will then wash off easy and leave the vessel as clean as new.

When your yeast fails to work nicely, beat the white of an egg to a froth, stir into the sponge, let stand a half hour and you will be pleased at the result.

When your stove becomes red or rusty and will not black, take a piece of tallow and rub it over the red part and then let it burn off. It will then black very nicely. A simpler remedy is to rub the red parts with vinegar and then polish with blacking that has previously been mixed with good strong coffee. To remove fly specks from furniture, use kerosene oil. To make your lamps burn brightly soak your wicks in vinegar, and be sure to dry well before using.

To clean white fur, kitty hoods, white veils, etc., sprinkle with flour and lay away for a day well folded up; then shake the flour out, brush lightly with a soft brush and they will look like new.

To remove paint from clothing use turpentine or kerosene oil.

Drop an apple in your cake or cookie jar and see how nice and moist the contents will keep. To clean silverware, rub with saleratus on a woolen cloth, and polish with tissue paper. To clean dusty carpets, sprinkle with dampened bran or corn meal, or even salt, and see the effect it will have.

If you happen to burn beans, potatoes, etc., try putting in cold water, and it will remove the burned taste.

Toilet Hints.—A simple and excellent remedy for falling of the hair is olive oil. Apply to the scalp with the tips of the fingers very briskly every other day. The best way to care for the hands is to use only soft water and good toilet soap for washing them, and before quite dry rub into them a few drops of glycerine. Those whose hands are chapped and tanned, should wash them in a tea made of steeped flax seed boiled quite thick. If your face or arms are not plump, rub into them pure cod liver oil, rubbing well. Try this for a good face bleach: Mix lemon juice and magnesia to a soft paste; apply to the face at night. In the morning wash off and apply a few drops cod liver oil. Do not expose yourself to the wind or sun that day if it can be helped.

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Among the Flowers.

Mary Murphy, Eldorado, Ill., writes of "Some Nice Plants I Have Had:" One was a caladium. I had a flour barrel sawed in two and half of it partly buried at the side of the porch, just at the end of the steps, on the shady side of the house. I filled my tub thus made, with rich dirt, and richer than most plants could stand, and I planted my caladium bulb. I kept it moist, but not too wet, until it begun to grow, then I gave it from one to two buckets of water every day. I gave it a drink of liquid manure every week or ten days, and oh, how it did grow! Some of the leaves were over three feet long and nearly two feet wide. Another plant was ivy geranium. I filled a ten-inch pot with rich soil and planted four ivy geraniums, all different. I then took a broom-stick and drove a tack in the top and placed in the middle of the pot. Then placed four good, stout hairpins at regular intervals around the edge of the pot, and fastened some dark carpet chain from the hairpins to the tack in the end of the stick. I trained some branches up the strings and some I let droop over the pot. The whole thing was soon covered, and it was a beauty.

In the early Spring I filled a tin can, that would hold about a gallon, with rich soil and planted a sprig of common hardy chrysanthemum, the kind that has small white flowers. I gave it plenty of water and kept it well pinched back until August. By that time it was a nice, thrifty, bushy plant. I quit the pinching and began to give it liquid manure. It was soon covered with buds, and later on with its pretty little white blossoms. Each one who saw it would say: "What a pretty plant! What is it?" It gave me as much pleasure as many a more costly one could have done.

All the above plants are easily grown, and nice specimens are very satisfactory. I always place about an inch of charcoal or cinders in the bottoms of pots or boxes. Many plants fail to do well for lack of proper drainage.

RICKETY CHILDREN.

Loose joints, bow legs, big head, and soft bones—mean rickets. It is a typical disease for the best workings of Scott's Emulsion.

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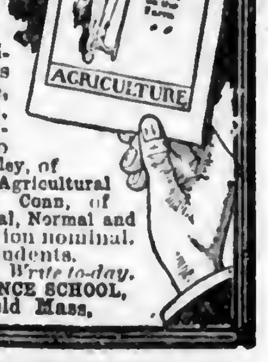

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A Parent's Duty to His Child.

MRS. E. R. CORNELIUS.

In most cities of any size we find the kindergarten, where disciples of Pestalozzi and Frobel find ways and means of instructing the little ones whereby they gain knowledge through pleasure; where care and attention are given each child to develop him in every sense. In these schools a child usually receives better instruction than a mother can bestow. Not so in our rural districts. In most cases the schools are composed of mixed grades, and the teacher, whose whole time might well be devoted to the more advanced grades, is, by circumstances compelled to neglect the little ones. Until a child is well started in the rudiments of learning, he can do very little to help himself. After he has been taught to read and write much of his time may be employed by "busy work" devised by the teacher. But too often do we see the little tot, worn out by sitting so long in idleness, perhaps his little limbs cramped on the hard seats, fall asleep from sheer fatigue. Thus is spent much of the time of the beginner. Where the mother has ability to teach her children, it seems the wisest plan to instruct the child at home for the first year or so. A child at six years is very impressionable and needs a mother's care and attention. Many mothers think it too great a care to undertake the education of their children, along with the numerous cares and household duties, yet it is not such a great task as it may seem. At the beginning is the only time when a great deal of the mother's time is needed, and even then she may so plan her duties that she may sew while giving instruction to the child. Once he is well started and able to help himself, the assigning of lessons and hearing the oral work may much of it be done while the mother proceeds with her other work. Many mothers look forward with apprehension to the time when the child must leave their sole care and guidance and begin his life's work under the direction of another. Thrown with children of all kinds and classes, we do not know to what temptations they are subjected. A child's mind is so susceptible that the wisest of supervision is essential to present only the good, and withhold the bad. In families of several children the older ones may assist the younger very much in their lessons; and the little ones will learn much by imitating the others. Whatever one's circumstances, he has not the right to deny the child an opportunity of securing an education. A parent's duty to his child is not performed where every effort is not made to provide means for the child's schooling. Often, through neglect or because the child's help is needed, is he retained at home until when he does begin, he finds himself far behind his mates, and placed with the younger children. Then through a mistaken sense of shame and humiliation, his desire to attend school has vanished; his interest is gone.

A parent has not the right to withhold from the child any means whatever for fitting him for an after life of usefulness; and we all know that an education is a great factor in the uplifting of man. To ignorance may be traced many of the crimes of today. The obligation of parent to child is just as true as that of child to parent. The lives of many children might be brightened would parents carefully peruse "The Rights of the Child" and "How to Govern Our Children," by Kate Douglass Wiggin.

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Correspondence.

Mrs. Charles Bornemeier, Greenwood, Neb., writes: Dear Mrs. Melville: Just having read your request in the P. F. that we should all write a letter to you, I thought I would now do what I have long been wanting to, but have put it off for fear I could not write correctly. As my parents were German I did not learn anything from them except their own language. My mother was sickly and I had to help her, so went to school only about six months. Mother is now at rest for more than nine years. Have kept house on a farm now nearly five years. Our first little girl is in a better home than we ever could give her. She is with our beloved Saviour ever since she was 15 months old. We have now three dear little children. Ella is not quite three years old; Walter is 19 months, and the baby (we named her Velma) is six months old, and it keeps me pretty busy to care for our family of five, besides the chickens, trying to help husband in busy times with chores, etc. Of course he helps me all he can at such times when work is not rushing. We like the P. F. very much, for it is religious and does not teach the use of liquor nor tobacco. The H. C. is a great help to me. "Fashion Fancies," "Correspondence" and "In the Kitchen" are usually the first I read, and I am a "floral crank," too. I am trying to do my work more systematically. One great help I find is to get everything ready in the evening for next morning's breakfast. After the little folks are asleep I slice the potatoes, or mush, or stale bread; soak bread over night in one egg, beaten, and mixed with enough milk to make it all soft; next morning I fry slices on a griddle for fried toast. It is good, too. I get meat ready, and soak the oatmeal over night, because we like it better prepared so than to put boiling water on it in the morning just before cooking it. Husband always starts the fire, so when I get to the kitchen breakfast is almost ready, and if the children get up as early as we do, I have time to dress them; if they don't, I can tend to the milk and such things. Today I just finished a little boy's dress, made out of an old blue skirt of mine; trimmed it in yellow, and it is a thing to be proud of, taking into consideration that the ribbon for trimming only cost a nickle. I think where there are little ones, one can use so many little pieces of goods, and by making over some garments of grown people, can make them look very nice again for the little ones. Hoping that I have not tired you with my letter, I must close with many thanks to you and the P. F.

[How we do enjoy these homey, helpful chats from our busy, earnest housewives. Come again, sister. Give that baby a special hug for us. Of course, owing to her name, she is a little bit ahead of other babies (?). We shall expect her picture some day for our "Baby Velma" gallery.—Ed.]

J. F. Cass, Puget Sound, Wash., writes: Oftentimes we are apt to exclaim in our hearts and to say in our haste, "Oh, Lord, there is none righteous, no not one. None are fitted to come into Thy presence. For it is evident that there can be no Heaven where evildoers come, it would be only another sin cursed world." And we forget that we have here a considerable body, yes a large company, of the human family, who, tested by the most critical judgment, are fit and meet for His acceptance any time. Now some will exclaim, "What new sect has arisen at length, and of whom such great things are spoken of?" No new sect has arisen. These people have no creed. It may even be said that they have no religion. They are simply that portion of the human family who are here just as God has created them—those who are in childhood. "Of such is the Kingdom of Heaven." God indeed has yet a people in this present evil world who fulfill His will. And perhaps it might be as well for the rest of us to pattern more after them. And we might after awhile even have a Paradise here. "Except ye become as little children ye shall not enter into the Kingdom of Heaven." How many of the great, cunning, crafty multitude of mankind, given over in most part to the study of the means of casting the burdens of life and of right doing and of sacrifice upon the backs of others, may be properly classed as little children? Verily this is a matter for serious thought. The writer lately casually made the remark, "This seeking after gain was probably at the bottom of most of the evil existing in the world." The rejoinder, "What are we here for?" so fully expresses the current sentiment of Western life that we use it as a text. No one has ever been heard of in the strenuous life of the wilder West who was here for any other purpose than that of gain. Perhaps in the more Middle West the wording of the answer to the query would take this form: "We are here in the pursuit of happiness." In the extreme East, and current in the more effete and old-fashioned sentiment there, the reply might sometimes be: "We have been made by the Creator for his own honor and glory; are here for his benefit." And that would be more in conformity with the teaching of the "Catechism" so commonly taught to the rising generation in "ye olden times."

M. M. Johnson, Clay Center, Neb., writes: Seeing, every day the novel success two girls are making in our town in buying and shipping eggs, I want to tell others about it. One day they called my attention to a groceryman packing eggs. We took in the sight without his detecting our curiosity. Old weather beaten cases, besmeared card board fillers, eggs of all colors, sizes and shapes, dirty eggs, clean eggs and eggs with feathers sticking to them. The girls came to my office next day and unfolded their plan. They would rent a room and begin buying eggs, paying cash, hoping this would induce farmers to bring their eggs to them instead of to the stores; and it worked. The farmers took to the idea in no time and the grocery stores are now compelled to get eggs for their town customers from these two girls. Not an egg goes to the stores from the farmers. Just another proof that people like to help those who try to help themselves. We find no dirty, filthy cases or fillers around this egg establishment. Every egg is washed and wiped dry. They are assorted into four varieties—the white shelled ones, the deep brown and light brown and a general cull grade, which catches the runts of the other three grades. The runt grade also catches the doubtfuls in candling. They have a market for the culls at market price, because they are, on account of being clean, preferable to a mixed lot of dirty eggs. They have a fancy market for the perfect eggs in handsome cartons, holding one dozen each, and a market for them in clean new cases. The three perfect lots are stamped with a rubber stamp. They buy all the eggs that come to this town and two other towns. Yesterday they called my attention to a case of eggs that a farmer brought in. They were all one color and needed but little sorting. "That is the kind everybody should have," they said. "We can easily pay that man a cent more than we can for eggs that we have to scrub and sort." Today they showed me a letter from a groceryman at a famous Western resort. It stated that he wanted two cases each day instead of one, and he voluntarily raised the price to encourage the girls to make an extra effort. Nice clean eggs, in handsome little cartons, did it. It seems to me this dirty-egg question is costing the poultry raisers too much money; they can't afford it. The real market for eggs is the towns and cities. Every city and every town of any importance has people that will have nothing short of the best, and in many instances a few cents more per dozen only makes them that much more attractive. We must figure on fads in this country and work them, and it is a fad with some people to buy nice things because the "big gun" got the same brand.

[This article, in substance, has been going the rounds of the poultry press for several weeks, the author having sent copies broadcast. We thought not to use "our copy" after seeing the others, but maybe some of our readers have failed to see it, and the suggestion is too good to lose.—Ed.]

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A Fine Kidney Remedy.

Mr. A. S. Hitchcock, East Hampton, Conn., (The Clothier) says if any sufferer from Kidney and Bladder Disease will write him he will direct them to the perfect home cure he used. He has nothing whatever to sell.

To Free Plants From Insect Pests.

Dissolve one ounce of Ivory Soap in one gallon of water, or in that proportion. Spray thoroughly, or better still, dip the plants into the solution; let the plants stand for half an hour, then shower them with clear water. The proportions given are for plants having a firm foliage, roses, carnations and the like. For soft-leaved plants add one-half more water. The Ivory Soap solution is less apt to injure the plants, is safer in every way, and is more certainly effective than Paris green or hellebore.

The EGGS which some coffee roasters use to glaze their coffee with—would you eat that kind of eggs? Then why drink them?
Lion Coffee
has no coating of storage eggs, glue, etc. It's coffee—pure, unadulterated, fresh, strong and of delightful flavor and aroma.
Uniform quality and freshness are insured by the sealed package.

Relieve Asthma, Bronchitis, Catarrh.
BROWN'S BRONCHIAL TROCHES
Cure Coughs, Sore Throat, Hoarseness.
Nothing excels this simple remedy.

$48 TOLMAN RANGES $23.75
with high closet and white enamel lined reservoir (or water front.) Great Foundry Sale. We ship range for examination without a cent in advance. If you like it pay $23.75 and freight and take range for
30 Days FREE Trial.
If not satisfactory we agree to refund your money. Tolman Ranges are made of best wrought steel. Oven 18 x 20 ins. Six 8 in. holes. Best bakers and roasters on earth. Burn anything. Asbestos lined flues.
Guaranteed 5 years.
Will save their cost in fuel in One Year. Write to-day for our catalogue.
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There is absolutely no wear in any of the other ingredients of which they are composed. Every time the quality of Rubber Boots and Shoes is reduced 10 per cent., the durability is reduced over 20 per cent. because there is only one way to cheapen them, and that is to leave out Rubber and put in its place other things that have no wearing quality whatever. This cheapening process has been steadily going on for the past 40 years.
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BUCKSKIN BRAND
OF RUBBER BOOTS AND SHOES are made of real rubber—and one pair of them will outwear two pairs of the standard first grades now on the market. Try a pair and be convinced. Made in Duck Boots, Duck rolled edge Overs for Socks, and Felt Boots and in Arctics and light rubber shoes.
Insist on getting the BUCKSKIN BRAND. None genuine without the word BUCKSKIN on the top front of the legs of the boots and the bottoms of the shoes. If your dealer does not keep them write us and we will see that you get them either through some dealer in your town or from us direct. We will also send you a very interesting catalogue profusely illustrated, which describes the making of Rubber Boots and Shoes from the gathering of the rubber to the finished goods.
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"Experience is the best teacher." This Experience Pool will be a weekly Farmer's Institute for the exchange of practical ideas by practical farmers. We want them to give their experience, as well as suggest topics for future discussion. We publish this department so that all may have the benefit of the tangible, practical experience of others on every subject pertaining to the farm. Let all contribute. A cash prize of 50 cents will be paid for the best contribution, 25 cents for each other contribution published. The only condition is that you are a yearly subscriber to the paper. Write on one side of paper only. On upper left hand corner mark plainly the number of the topic you write about. Articles on all topics must be in our hands at least three weeks before publication. Do not forget to suggest ahead topics for discussion. Address all communications to THE EDITOR, Box 385, Raleigh N. C.

Topic No. 559, Feb. 14.—*How Are Farmers' Institutes Managed in Your Section, and in What Way do You Think They can be Improved and Made More Helpful to the Farmers?*

Topic No. 560, Feb. 21.—*Growing Tomatoes for the Canning Factory. What Variety Have You Found Best, and How do You Manage the Crop from Start to Finish?*

Topic No. 561, Feb. 28.—*Have You Adopted Any Systematic Method of Improving Your Seed Corn? If so, How and With What Success?*

Topic No. 562, March 7.—*Have You Raised Good Calves Without Milk? If so, How?*

Topic No. 563, March 14. — *What Varieties of Pears Have You Found Most Profitable, and How do You Cultivate and Pack for Market? Have Dwarf Trees Been Profitable?*

Topic No. 564, March 21.—*For the Ladies. How do You Make the Washing of Dishes, Pots and Pans Easier and not at the Expense of Time and Cleanliness?*

Topic No. 565, March 28.—*Have You Ever Tried Flat Culture with Cotton, and What is the Best Distance to Thin in the Rows and Between the Rows?*

Topic No. 566, April 4.—*How Do You Raise Turkeys, and What Breed is Best?*

Topic No. 557.—For Ladies Only.—Tell us How You Succeed With Window Plants in Winter, What You Grow and How You Treat Them.

Mrs. Sarah A. Pleas, Dunreith, Ind. — I have had almost everything that could grow in a window. Excessive heat and dust are the most difficult problems, plants crowded together in all kinds of pots the most unsightly. Given a frost-proof room, with rich earth, plants require little more attention than dinner pots on the range. Each must be kept watered to prevent becoming too dry; this will depend on the size of the pot and its location to heat. Moisture and cleanliness prevent all insect enemies. One who values the health of the family or of plants must provide pure air, free from dust. Much may be accomplished by training the family to carefulness. Dirt should be taken up before it gets worked into the carpet. Where much dust has accumulated, sprinkle damp tea grounds, salt or sawdust to absorb the dust. Dampen broom in hot water; do not sweep this across the floor and thus work it into the carpet, but brush it into little heaps, to be taken up on dust pan. Do not allow yourself to raise a dust to settle on plants. It is more easily removed from the floor than from the contents of the room. Secure from frost, from excessive heat, and injurious insects, with large pots and jardinieres, having studied the preferences of each for sun and shade, I have but to water and enjoy them. My room has an open fireplace where we burn natural gas. An east window, under a verandah, has asparagus sprengerii in the centre, which reaches out over the entire surface of the glass, with Chinese primroses on brackets at the sides, a fern dish with small ferns and Kenilworth ivy in each corner, and a large umbrella plant in jardiniere on floor. My large bay has cement floor, with drain pipe to carry off surplus water. The walls are of brick and whitewashed for the double purpose of showing off the vines better and not being injured by water, besides making it lighter, since the glasses are but narrow. I prefer large pots and jardinieres with tops level with the window sills. A tall vase filled with English ivy stands near the west wall, with a primrose on top; the ivy climbs all around, up over the wall, the arch and across the window and its casings, drooping from the centre overhead. (A basket suspended spoiled the effect.) A tall jardiniere with a begonia, Glorie de Lorraine, stands before this glass. Next comes a large lawn vase, filled with plants as pretty as could be selected, lifted off its base, carried in and placed on a block with castors; on this is stood a four-foot Kenta Belmoreana, which makes a lovely combination. In the southeast corner stands a tall vase draped with Kenilworth, bearing pot of Boston fern. The south window has a full pan of Paper White Narcissus. A large, old Cyces Cevolute stands on a pedestal to bring its fronds above the ferns, accompanied with Kenilworth. The east window has a pot of freezias, with Paris daisy in jardiniere in front. Next in order is a 2-foot vase having a large Boston fern drooping to the floor, every frond perfect. In front, standing on the floor, is a large basket begonia. A hanging basket by east window has a winter blooming begonia; another by the south glass contains Buttercup oxalis. Two large oleanders stand just at the corners of the window, their tops touching the arch, their bloom greatly improved by not having strong light. Their tubs have variegated vines draped around them and climbing up among the lower branches. These complete the assortment, not a great deal of bloom, but none is prettier. Nothing is crowded, with room to brush up the fallen flowers. They only require water once in three or four days, not so often when colder. Two tall oleanders occupy the furthest corner from the windows, one on the floor, the other on a bracket directly above it. They appear as if but one plant, and are watered sufficiently to keep the foliage from drooping.

Mrs. E. E. Higgins, Jefferson, Md. — My sitting-room has two windows, east and west. A pot of smilax twines around the window, and flowering begonias are in bloom in the west window. In the east one there are several oxalis, primroses and primula obconica on a broad shelf. On the sill of the window cyclamen and fuchsias. The kitchen and dining-room combined has a south and a west window, and has geraniums in the west window and in the south has two callas, two poinsettias, which require close attention, as they stand no chill. On a bracket shelf in this window are geranium cuttings and a weeping lantana, which is a marvel of beauty. In a heated back building I have a variety of plants, a table being filled with lantanas, fancy leaf geraniums, heliotropes and a lemon tree in bloom and fruit. A few days ago it dropped one weighing 16 ounces. The tree was grown from a cutting of the Citron lemon. The only fertilizer I use is hen manure, over which I pour boiling water, and when cool I give this once a month. Some plants need a great deal of water, some, like geraniums, not so much. Use water with chill taken off. When weather admits I take them to the back porch and give them a bath with a sprinkler. I never remove them from the windows at night, but fit a sheet of brown paper on outside the window and close the shutters. In the upstairs windows I put paper back of the plants and they bloom nicely.

Mrs. J. C. Wheeler, East Scott, N. Y. — I have good success in a cold climate. With a sunny window and a coal fire we can have plants blooming in winter, but without these it is hard to get bloom. Have kept plants alive by moving them to a table in the room and covering with newspapers, but seldom had one to bloom. In such case select a few plants like begonias, fancy leaved and rose geraniums and ferns taken from the woods in early fall. The ferns do not even need the window. It is said that German ivy (Senecio) will grow in bottles of water and make a pretty frame for pictures, with bottle concealed behind the frame. A sponge dipped in water and sprinkled with flax seed will make a pretty ornament to hang up.

Mrs. M. Daniels, Chicago, Ill.—I have the most pleasure from a rubber plant. Have had one for five years and it has been hardy and free from insects. The top was cut off when small so that it branched and made a fine plant. They need little water. A thorough wetting and then no water till needed again. Sponge the leaves off to keep clean of dust. I prefer a few fine plants to a lot of poor ones. I succeed well with rose geraniums, but other geraniums fail to bloom, though they have sunlight, water and a good soil. We have a large orange tree and a date palm grown from seeds. They are very slow at first.

Mrs. T. A. Shuff, New Berlin, Ill.—A window shaded by porch is no place for plants. A friend uses an upstairs chamber with southeast window, heated from an adjoining room and a large chimney from the room below. She has a window box filled with violets, from which a bunch of flowers is cut every alternate day. An English ivy runs over the top of the window and down the sides, and half way up is a shelf with a row of hyacinths, rooted six weeks in the cellar and brought up as they started the tops. They bloom in February.

Mrs. J. E. Eddy, Marshfield, Vt.—I have geraniums, begonias, petunias and abutilons, which are easily grown and free from insects. I keep a century plant which is little trouble and always pretty on the grounds in summer. When it gets too large to handle I give it away and start another. Plants are kept in south windows, as far from the fire as possible, and the rooms are aired several times a day, even in the coldest weather and the temperature is kept as near 70 degrees as possible and lower at night. Give a shower bath once in two or three weeks. Loosen the earth in the pots frequently and only water when dry, and then thoroughly. I use charcoal for drainage in the pots, and a soil made of garden earth, woods earth, scrapings from the barn cellar and sand. In spring, as they grow more rapidly, I give liquid manure once in a few weeks.

Miss Roxie Sheets, Lexington, N. C. — I have two windows, on north and west sides. At north window I have a primrose full of buds and bloom, and at the west window I have a round table with a Boston fern in centre, four Rex begonias, one flowering begonia, three primroses, one asparagus plumosus nanus and one sprengerii. I water only when needed, and often change the places of the plants. On pleasant days the windows are always open. A little weak liquid manure helps them greatly. They are fine and vigorous plants. A north window suits the primrose, so that no one need be denied the pleasure of having them. I raise my own plants.

Mrs. Katie Baumgartner, Pierce City, Mo. —I have grown house plants many years. I find geraniums, fuchsias and Christmas cactus the best bloomers and most satisfactory. I root slips the last of August for winter blooming, as they are better than old plants. I like, for pots, the loose earth from the woodpile. I keep the plants in a sunny window and water every other day and manage to have flowers all winter.

Mrs. Wm. Lea, Marietta, Ga.—My husband dug a place under front porch which fronted west, and sunk a large dry goods box two-thirds of its depth. A pane of glass was placed in the door of the box, and door made to fit as tight as possible. At the top edge of the box is tacked a piece of oilcloth that comes to the ground and can be fastened down on cold nights. Box is lined with heavy paper. The hothouse is cheap and movable. I had an Otaheite orange, jasmine, sanseveria zeylanica, hydrangea, heliotrope and linum trigynum, several geraniums and buckets with tradescantia hung on screw hooks, and three bowls of sacred lilies. The greatest difficulty was that the evaporation from the lily bowls kept the other plants too damp, but keeping the door open on sunny afternoons soon dried them off. The linum bloomed finely and so did the geraniums, orange, heliotrope and lilies. Since then I have moved to another State and now have only two bowls of sacred lilies in a sunny window. These are very satisfactory.

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Mrs. Mary Plath, Hill City, Tenn.—I succeed with window plants, but I do not keep them in the house in winter, but in a pit. It is a great deal of trouble to keep them from freezing in the house, and it hardly pays to burn ten dollars' worth of fuel to keep two dollars' worth of plants. I thought when living in Minnesota that it would not freeze plants in the house in Tennessee, but I have found that it does. My pit is four and a half feet deep and 5x8 feet in size, and has three hotbed sashes over it. The frame is 18 inches high at back and 12 in front. For several winters I used canvas covers instead of glass and they were satisfactory. It took two or three coats of linseed oil to make the cloth waterproof and let in more light. The pit has shelves for the plants and steps for me to descend. I grow roses, geraniums, fuchsias, lantanas, heliotropes, begonias, petunias, hydrangeas, callas and other things, and give them the same care I would in the house, except that they do not need water so often. But it will be hard to find a healthier lot of plants.

Mrs. S. J. Davis, Johnson, Vt.—I succeeded by having thrifty plants that I raise myself. Sow seed of Chinese primrose in June in cigar boxes, two-thirds leaf mold and one-third sand sifted together, and scatter the seed evenly on the soil. Gloxinia seed should not be covered, and the primrose very lightly. Put glass over the boxes and keep just moist till plants appear, and in transplanting use the same kind of soil with some fine manure added. Four-inch pots are large enough for them to bloom in, and they will flower all winter. After the gloxinias have bloomed withhold water gradually, till soil is nearly dry and then cut off the tops and set the bulbs away in pots to rest till new growth begins, then bring them to the light and they will be more beautiful than ever. Set them in north or west window, as they do not like the sun. In my south window I have flowers and fruit the year around, on the Otaheite orange and American Wonder lemon.

Mrs. L. E. Kerr, Hurricane, Ark.—Among free bloomers I place the manettia vine first. It should be a young, strong vine that has not bloomed in summer, and should have a half-gallon pot. On such a plant I have counted 75 flowers on New Years Day. A dozen plants will make a large window blaze. For early bloom, Roman hyacinths are good. For a white flower, nicotiana affinis. Palms are popular, and then come the freezias, oxalis, narcissus, ferns and ivy, while the primula has few equals for blooming. A dozen good plants are better than a crowd of sickly ones.

Mrs. A. D. Babcock, Goodlettsville, Tenn.—Living rooms are apt to be too warm, dry and dusty. For years I kept my plants in a bedroom, as the sitting-room was near enough to give the needed heat. I bloomed geraniums, and the begonias and callas always did well. Primroses were never-failing, and an inch cactus (Epiphyllum) bloomed full in winter. I put fuchsias in the cellar in winter. Here where we use fireplaces, it is hard to keep plants safely, so pits are used. I used one last winter successfully. It was simply a hole in the ground 3x5 with a shallow frame above ground, about half boarded over and covered with earth. A board cover protected them on cold nights, but being close to the south side of the house there were few days when it was not open. Sometimes a blanket was needed. Some plaster the pit and build quite a house above, with sash doors. Others think a canvas cover is better than glass. An Amaryllis Johnsonii that has never bloomed spent the winter in the pit dry. It began to grow in February and bloomed finely. I drain pots with pebbles and use leaf mold and garden soil with a little manure. Water occasionally with liquid manure and stir the surface frequently.

Mrs. F. F. Frantz, Wehr, Pa. — Of geraniums, a year-old plant is better than a young one, as it has more flowering surface. If you want a geranium for winter bloom do not allow it to bloom in summer. Cut back an old plant sharply in spring until but a mass of stubs. Re-pot in soil of moderate richness. Keep in the pot in summer and water only enough to keep the soil moist, and pick off every bud. By fall you will have a plant ready for work, and by the beginning of the year it will be full of buds and will bloom profusely. Those who grow old plants well will never use young slips again. I have specimen plants of geraniums five and six years old which are covered with flowers winter after winter. But it must not be asked to bloom in summer.

Mrs. Emily Rapp, Leesburg, Ind.—In early fall I begin to get my plants ready for winter. I get a supply of leaf mold and every plant gets some new soil. I grow callas, sacred lilies, cyclamen, begonias, geraniums, freezias, cactus, primulas, everblooming roses and carnations, and for decoration, palms, cyperus, coleus and Rex begonias. Do not have the same every winter, for I like to try something new. I prefer cans to pots, and use charcoal for drainage. Water as needed and sponge the leaves occasionally. Use liquid manure once a week, and occasionally lime water to kill the white worms.

Susan B. Robbins, Abington, Mass. — My room has a coal fire and some things find it too warm. A sunny place where it does not freeze is the ideal place for the plants. I succeed with begonias, callas, heliotropes, coleus, geraniums and maiden hair ferns and oxalis. The plants are healthy and the soil half leaf mold and half rich garden soil. To every peck of this I add two tablespoonfuls of fine bone flour and four of hard-wood ashes. A little ammonia in the water once a week helps. I water every day, and never let the soil get very dry nor too wet. Sprinkling once a week will keep them clean. Heliotropes should be started early in the summer and kept growing in a pot. Callas need plenty of water and geraniums should be in rather small pots.

Mrs. C. Bramhall, Campstown, Pa.—I keep plants successfully in a bay window facing south. Coleus, begonias and the more tender plants on the top shelf, and the lower shelf is filled with plants that need less heat. Geraniums are in the south window of a room heated by register. Baby, Obconica and Chinese primroses all do best in a cool place. Before frost I lift some plants of ageratum, sweet alyssum, salvia and petunia for early flowering in winter. I use lime water for the white worms in the soil and shower with cool water for the red spider. For other insects I use soapsuds. Shower the foliage once a week. Do not let get dusty, dry, nor over-water. For primroses I use nearly all leaf mold. For other plants a soil of sand, leaf mold, well rotted manure and soil from the garden or along an old fence row. Stir the soil with a fork and give liquid manure occasionally.

Mrs. Thos. Patton, Mosgrove, Pa.—I have two stands, one at west window and one at the south. In the south window there are crimson and white geraniums and others. On the lower shelves cyclamen do well. House plants should be turned every day to keep them in good shape. In the western window I have roses; they are not always in bloom, but when they do bloom they almost crowd themselves to death. Chrsanthemums do well. There is a French variety with fine foliage that blooms all winter [Chrysanthemum Frutescens.—ED.] Lady Washington geraniums are good but bloom late. A few hyacinths should be used, as they can be forced at Christmas. It is pleasant to care for plants and to study their needs. Water, sunshine and air and not too much heat, are essential to success.

M. S. D. N. Sweeny, Freeland, Md.—I have geraniums, callas, begonias, rubber plants and others and have flowers all winter. Water twice a week with luke-warm water, except the callas, which are watered daily with hot water in the saucer. I put a tablespoonful of coal oil in water for all plants. It gives them a fresh and glossy look. [Better let it alone.—ED.] I do not work the soil around the plants at all. All admire my flowers and want to know how they bloom so much. They face the morning sun, and that is the most important thing.

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Mrs. C. Burk, Richmond, Kan.—A few well kept plants are better than a large number of poor ones. I do not try every novelty. I have but one window that can be spared for the purpose, and that is partly shaded and gets the sun but a little while. I try to have the plants in good condition when they come in the house and gradually get them used to indoor air by giving all the fresh air possible. In potting I use good garden soil well manured from the barnyard. I mix this and heat very hot in the oven and then cool before using. I grow geraniums, fuchsias, heliotropes, begonias, primroses and other plants, and several hanging plants. Pots are clean and have broken crocks and charcoal for drainage. Old tin cans do if holes are punched in the bottoms. Water well every few weeks with liquid manure, and sometimes with the bloody water from washing fresh meat, and a little soapsuds. Never use very cold water, but sometimes quite hot. Sprinkle often to clean the foliage. Of course the fire is not allowed to go out cold nights.

Mrs. E. S. Webster, Hutchison, Kan.—We have a bay window on the south side of the house, and pot plants in a soil of leaf mold, garden soil and rotted manure in equal parts. Our best plants are an Otaheite orange, asparagus sprengerii and plumosus, pandanus and Rex begonia, blue plumbago, wax plant and calla. Have a striped petunia that climbs and blooms continuously and this winter cherry peppers have succeeded fairly well. The Madeira vine is the best climber. Callas need plenty of pot room and water poured into the saucers. Balsams do well if given plenty of sun and kept free from insects, and nasturtiums give a good show of bloom. Scented geraniums are essential, and coleus brighten up the other plants. I water when the plants get dry, and add a quart of liquid manure to the water once a week. I pot hyacinths early and place them in a dark cellar six or eight weeks. If blossoms begin to open before the stalk is high enough I place a paper cone with a small opening at the top over the pot till the stalk is high enough. Lukewarm water is a good insecticide. For aphis I use insect powder, but find scale must be picked off. [Wash them off with soapsuds and a stiff brush.—ED.] Cold water is the best thing for red spider.

Mrs. Z. H. Held, Gridley, Kan.—I have two double-windows in the south and have geraniums, fuchsias, heliotropes and other plants. Have good success with begonias, judging from the way my friends admire them. I use a soil made of equal parts of good garden soil, well rotted manure and sand. Old stumps from the woods are also good to mix in. Drain with gravel and charcoal. Do not use pots too large for the plants, geraniums especially. Plants that need the most sun set near the glass. Fuchsias, smilax and asparagus will take a back seat easily. I water my plants twice and sometimes three times a week. Some need more than others. I study the directions in the catalogues and try to follow them. I use very warm water, pouring it around the edges of the pots, and thus overcome the white worms. Wash the leaves once in two weeks, and use soapsuds freely. Give fertilizer from cow stable or chicken yard once in two weeks. And when winter is outside I can forget all about it.

Emma L. Eby, Columbus Grove, O.—Everyone admires the plants in our southeast room, consisting of varieties of palms, a fern and various winter bloomers. I raise my primulas from seed. Mine are in six-inch pots in a cool room and have a rich soil. They have liquid manure once in two weeks. When first taken in they are placed in an east window, and as the sun moves south, in a south window, and though they may wilt a little in the bright sun, the flowers are of better color than in a shaded place. I have cyclamen that I grew from seed several years ago, that is now in bloom. It takes patient watering and waiting to get the cyclamen seed up, as it is five or six weeks in starting. Some rot the cyclamen bulbs they buy by watering too much. [Put the bulbs on top of pots only twice the diameter of the bulb, with the roots only in the soil, and then never wet the top of the bulb, or you will rot off the leaves and flower buds.—ED.] Geraniums are among the most popular of plants, though some object to them as too common. They readily adapt themselves to almost any conditions, and while common they are none the less beautiful. Begonias are easily kept in a shady window and in an ordinary living room temperature. Begonia Rubra [Corallina.—ED.] is one of my favorites. [This begonia often does better in a living room than in a greenhouse. We have seen it 10 ft. high, loaded with flowers.—ED]

Mrs. R. H. T. Wylde, Nanuet, N. Y.—I have learned by experience how to manage the house plants. Have not much room nor much sun, but find that I can do well with aspedistras, ephipyllums, hyacinths, flowering begonias, Rex begonias and some other plants. Aspedistras need little care. I water alternate days while some keep them wet all the time. [We leave them outdoors all winter in North Carolina, and in the North they will do better in a cool room with little water. The leaves get scorched a little in our coldest weather, but they come out all right in the spring.—ED.] Epiphyllums need little water except when blooming. Warm water, with occasionally a little ammonia, is good for them. I give them the sunniest place. Flowering begonias are always in bloom. Hyacinths started in the dark and then brought into a sunny place, do well. I find the German ivy slips should be made frequently, and the Kenilworth should have the ends nipped. I make a fresh pot of German ivy every six months, or cut the old plants down and start them again.

Mrs. E. H. Topper, Greensburg, Pa. — I have succeeded well and grow geraniums, oxalis, begonias and other plants. Have now a lot of single petunias starting buds. They are just the common garden kinds that seed themselves, and are lifted in the fall. Oxalis has given me the most pleasure with hardly any care. Pink and white are the only two I have. They bloom all the time, but for house blooming should have a rest a couple of months in summer. I keep them barely alive and in the fall give fresh soil and put in a sunny place and they are soon covered with flowers. I find that geraniums lifted from the beds and cut back in the fall give more flowers than young slips. Begonias are good for shaded windows. For soil I use garden loam, leaf mold and a little sand, and have used fertilizer with it when well mixed in. Use liquid manure sparingly. Dirty soapsuds make the fertilizer I have used most. Do not pour it over the leaves, as it will injure some. I use cans of various sizes, with a layer of drainage and holes in the bottom. It is best to heat the soil before using, to destroy insects. I once had a large begonia that became sickly and was nursed all winter. In spring I found 18 large earth worms in the soil. [Lime water will drive earth worms to the top and they can be captured. Roasting the soil is good.—ED.] Tobacco in any form will destroy aphis. Sponging and sprinkling with cold water for the red spider. [For mealy bugs, touch them with a camel hair brush dipped in wood alcohol.—ED.]

Mrs. S. L. Hallman, Collegeville, Pa.—After years of failure I have succeeded in having plants bloom in winter. I have now geraniums, begonias, callas and other plants, and one large Sago palm. Formerly expected the plants to bloom all summer and then bloom in winter, but was, of course, disappointed. Calla and crab cactus always bloom well and I would not be without them. I plant slips of geraniums and other plants in May or June, and pinch off every bud till October. Then remove the surface soil and add some fresh soil, to which a teaspoonful of complete fertilizer is added. I put the plants in a southeast window and they bloom all winter. I have also grown chrysanthemums successfully and bloomed them in the house. I grow only such things as can stand the hot, dry air, and leave the rest to those who have greenhouses.

Mrs. Frank Mason, Tully, N. Y.—I keep plants in an east window of a southeast room heated with a wood stove. Have tried other plants, but my standbys are geraniums. I prefer old plants that have rested in the ground all summer, and like cans and pails better than pots. Soil, one-half rotted chip dirt and one-half rich garden soil, and water only enough to keep the soil just moist. I have numerous colored geraniums and I always root a slip of rose geranium for its fragrance. Water the plants with the water I wash potatoes in, and they are never troubled with white worms, and we are seldom without bloom.

Mrs. M. R. Waggoner, Blue Grass, Ia.—I have my plants well grown and potted early in the fall, and see that no insects have found lodgment on them. Leave them outdoors as late as safe in the fall, except the most tender things. When in I keep from fire heat as long as I can, this year till Thanksgiving. Soak well rather than water often, and give air whenever practicable. Keep foliage clean by syringing, except primulas and Rex begonias, which should have no water on the leaves. Give moisture by setting a kettle of boiling water in the bay window, and a pan of water on the heating stove at all times. Watch for insects. For aphis, cover the soil in the pot with chopped tobacco. Use moisture for the red spider. I grow a great variety of plants and a multitude of basket plants. Put coleus on top shelf in full sun and begonias in full light, but not sun. Cinerarias go low down on the floor where they are cool. Ferns all around the base and palms in strong light. Primroses occupy the east windows, all grown from seed sown in April. Winter would be dreary without the window garden. Give good soil, careful watering, fresh air and an even temperature and there is little trouble in growing and blooming plants.

Mrs. E. N. Moore, Uncasville, Conn.—Do not have too many varieties of plants. I made this mistake when I began. My windows face north and south. In the north window I keep fancy leaved begonias, also a palm and some ferns, which do well without direct sunlight. In the south windows are geraniums, heliotrope, rose, ageratum, petunias, pelargonium and abutilons. Geraniums and abutilons are good bloomers. A weekly washing with water made soapy with tobacco soap, and rinsing, keeps them clear of insects. The begonias in the north window are carefully sponged to take off the dust, and the rose and palm looked after for scale. Water as needed and increase as spring comes on. Give water with ammonia once a week, one tablespoonful to the gallon. Remove the plants to a safe place when it threatens to be very cold. Plants for winter blooming should be potted in July, shortened back and all the buds picked off. When brought in keep in a cool room for awhile, but do not allow them to get chilled. Soil is garden loam, leaf mold and sharp sand in equal parts, with a small quantity of fish and ground bone, with charcoal and sphagnum moss for drainage.

Miss M. S. Andrews, Farina, Ill.—We have trays an inch deep, of galvanized iron or tin, to fit the benches on which some plants are set. Sometimes set a bowl of water among them. Use small pots, as few plants bloom till their roots are crowded. Most of our plants are in 4-inch pots. We seldom use any fertilizer. Tin cans are as good as pots, but it is not easy to transplant from them. An inch or two of loose material is needed for drainage. Remove plants to porch occasionally and shower them. In very cold weather draw down the shades and pin newspapers back of the plants. My favorites are begonias and geraniums. The begonias are pretty always, and the geraniums are sure to bloom. I keep the geraniums in pots all summer and do not allow them to bloom.

Mrs. D. D. Hershberger, East Lynne, Mo.—Not having much room for flowers I keep geraniums, double petunias and a few other plants. I start slips in August or September in tin cans, not so large as quart cans, as they bloom better than in large ones. Have good rich soil and water often with warm water but not much at a time. Rich soil and a sunny window and you can have flowers.

Mrs. Edwin R. Thompson, Poole, Md.—I have but one south window. There are two shelves in it and I keep them full. I have geraniums of various kinds, begonias, callas and other plants, and have had roses do well. As there is always a fire in the room they need a great deal of water. In mild weather I set them out in the yard for a while twice a week, and shower them in the when too cold for this I shower them in the house. I use rotted earth from the chip pile for soil, and put broken crocks in for drainage. June is the best time to make cuttings for winter blooming, but sometimes my most satisfactory plants have been lifted from the ground. I think the showering keeps my plants clear of insects, as I am not bothered with them.

Mrs. F. R. Hunt, Paradise, Texas.—I have had great success with plants this year. Chrysanthemums and petunias first, then pinks. Then a nice collection of bulbs that are fixing to bloom. These were potted early and kept dark and then taken in. The kitchen is the best place for them, as the steam from the cook stove makes the plants thrive. I always water plants with luke-warm water and ammonia added to the water makes them grow well. Water hyacinths will bloom well if water, sand and pebbles are placed in a glass dish. Set them on the sand and fill with water, nearly boiling hot and then place in a sunny window. After three days add half a pint of water with half a teaspoonful of salt and a few drops of ammonia and they will bloom more quickly than in soil. I use leaf mold, sand and rich earth for all plants.

Mrs. S. G. Swelgart, Ephrata, Pa.—A window with a southern exposure is needed for plants that like sunshine, while some plants thrive in a northern or eastern window. Geraniums, my special favorites, need a sunny window. I start slips in old cans in June and take them in, here, the first of October. At that time I dissolve a tablespoonful of any good fertilizer in a quart of boiling water; when cool apply about the same quantity as in ordinary watering. Have had the geraniums make florets as large as a silver dollar. Do not let plants suffer for water. Such plants as have not too many small roots, should have the soil well stirred up once a month. My greatest pleasure is the raising and care of flowers, and my success is good. I have none to throw away, as my friends gladly take all I have left.

Mrs. Hattie Peacock, Gardiner, Me. — At apple blooming time select the strongest geraniums, and cut them back within three inches of the roots. The first of April I take sods from the garden and pile them alternately with manure and a little lime, and the compost is ready to use in August, if it has been turned and kept fine. Then I mix a little Bug Death with it and transplant the geraniums and petunias, started the last from seed sown in July. With the first frost take them into the kitchen where it is 70 in daytime and 55 at night. In very cold weather a large hanging lamp with a reflector keeps the frost off. I spray with an atomizer once a week. The cut down plants are not allowed to grow until August, keeping them as dry as possible without dropping their leaves. I seldom have lice on the plants and never in the soil. I prefer single geraniums and ruffled petunias and a few other plants.

Mrs. L. Lute, Bruce, Pa.—I succeeded in growing coleus and begonias from seed by making the soil very fine and putting it in old tin cans within an inch of the top and placing these in the oven to get very hot. When cool, watered well and sprinkled the seed on top of soil, then placed a piece of glass over and set in a sunny window. Kept the soil moist and in two weeks the plants began to appear. Removed the glass daily for a while putting it back again till they were an inch tall, and then transplanted them to other cans with the same kind of soil. Some of the begonias bloomed when a few inches high. I water in winter by placing the cans in a bucket of water and let them saturate, and then drain them. I find the plants I care most for are the ones that do best for me. Coleus like the sunny window and begonias the west window, but they will bloom in a north window.

Mrs. Phoebe L. Bowman, North Baltimore, O.—I grow asparagus plumosus, Boston fern, primroses, callas and other plants. Sow primrose seed in February each alternate year and let them bloom two winters. Keep the seedlings in the house the first summer. These, with the ferns, are grown in a north window. I raise cyclamen also from seed, but keep them from year to year. They are in an east window. These and primulas are put out under the trees in summer, and the callas are turned on their sides and re-potted about September 1st. Cactus I keep on brackets. I put begonias out on the north side of the house in summer. Replace them when too large with plants from slips. Freezias I keep growing as long as they will and when they dry off turn a saucer over the pots, place them in the shade and re-pot last of August. Grow hyacinths singly in four-inch pots. My soil is two-fifths leaf mold, two-fifths clay loam and one-fifth rich earth from the cow yard. Give all the light I can. A Boston fern almost fills one window, a begonia appropriates another, and we have flowers all winter.

Miss E. A. Brockett, Bristol, Conn.—I have succeeded with cactus and begonias, which require care as to water. Begonias need water enough to dampen all the soil every day. Heliotrope and fuchsias do not do well with us. They need more uniform warmth than most house plants. The fern is our greatest success. We went to the woods and dug some sword ferns and set them in a jardiniere. They make a good substitute for the Boston fern.

SUMMARY.

The ladies have left no room for the Editor. We had hoped to have given all their pretty essays in full, but there were so many of them and many so long, that we have been obliged to cut them down, and even now we hardly believe there will be room for all. We have gone over and patiently made a digest of each letter, and every word you see here has been typewritten by the Editor's fingers. We have often remarked to our florist friends that the ladies beat us badly with their house plants, and that we never knew a florist who could do as well as many of them under like conditions. We can handle plants in the greenhouses, but must confess that it rather gets past us to have them in good shape in the dwelling long at a time. Now a few words of advice. Never water a plant, except such as need wet earth all the time, till it needs it. Then give it a soaking all the way through. I have seen many a pot plant that looked wet on top the soil but was perishing for lack of water, because it was being constantly dribbled on. If scales get on plants take them outside and with a stiff brush and soapsuds clean them off and rinse with clean water. Tobacco in some shape is the remedy for aphides. Whale oil soap is also good for mealy bugs, but on a few house plants it is better to touch them singly with a small brush dipped in wood alcohol. Never apply liquid manure to a plant freshly potted, as it will sour the soil. No florist ever uses it till the plants have completely possessed the soil and are getting pot-bound. Then the liquid manure can be used profitably. A good large window box is often more easily managed than plants in pots. For blooming things like violets and bulbs of various sorts we prefer a cold frame covered with sashes and with good mats at hand to keep frost out on cold nights. We have such a frame with sixteen 3x6 feet sashes and can get flowers from it at any time, though here we have, as we write, Roman hyacinths and violets in bloom outdoors. The freezia tops in the garden have been nipped by frost, but they will be all right in the spring and bloom after the housed bulbs are over with. Wish we had more room, as we have many things to say on thise interesting subject.

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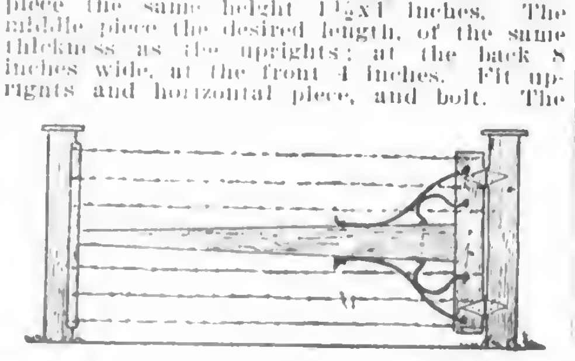
A Good Gate. Take for the back an oak piece 1½x8 inches, 5 feet long. The front piece the same height 1½x4 inches. The middle piece the desired length, of the same thickness as the uprights; at the back 8 inches wide, at the front 4 inches. Fit uprights and horizontal piece, and bolt. The wire may be either smooth or barbed. Double the strand so as to twist and make tight. The braces are pieces of the running gear of an old buggy or spring wagon. This makes a durable and tight gate, "A thing of beauty and a joy forever." W. R. ENGLISH.
Rome, Ky.



Plowing Orchards. A convenient plan for plowing close to trees with a team is as follows: For the two furrows next the row unhitch the whiffletree from plow and attach a chain about four feet long to the clevis in the doubletree. The other end of the chain, which should have a hook attached or else a large ring, is secured to the beam just back of the coulter. When the team turns out to avoid the tree the plow, by careful handling, may be made to shave the trunk and take away almost every bit of sod if desired. The device is convenient and does good work. JAMES SKELTON.
Niagara, Ont.

Pulling Stumps or Moving Rocks.—Take a short piece of plank 3 or 4 feet long and stand under the chain close to the rock. I have started rocks out of their beds that were all the horses could pull and not more than 8 or 10 feet at a time.
Lime Hill, Pa. W. E. LEWIS.

Saving Plumbers' Bills.—Take sand and Portland cement, equal parts; mix as for plastering. Place in a cloth and wrap around the bursted pipe and tie. If the break is large, hammer the pipe together so the cement will not get inside. It is durable and makes the pipe as good as new.
Lakeville, N. Y. G. M. ARMSTRONG.

To Remove Cakes, etc., from Pan.—New cake tins, and sometimes old ones, are very troublesome about sticking; and it is very provoking to have a nice cake, and especially a layer cake, break up in getting it out of the pan, but after trying the following plan I have not had a broken cake of any kind. Remove cake from oven and turn it top down; have ready a cloth wet in cold water, and rub it quickly over the bottom and sides of your cake tin and in a few seconds your cake will drop out without a break.
Hutchinson, Kan. MRS. E. S. WEBSTER.

Frost Protector.—One of the best is a large bag of forest leaves. A bag of leaves is warmer than any other filling to be had as cheaply. Pack fruit cans in pressed leaves after wrapping in paper. Keep the stock bedded deeply in leaves in cold weather; they make the warmest, the most economical bedding and furnish a valuable addition to the manure in fertilizing. JANE BRYAN.
Dillon, Ga.

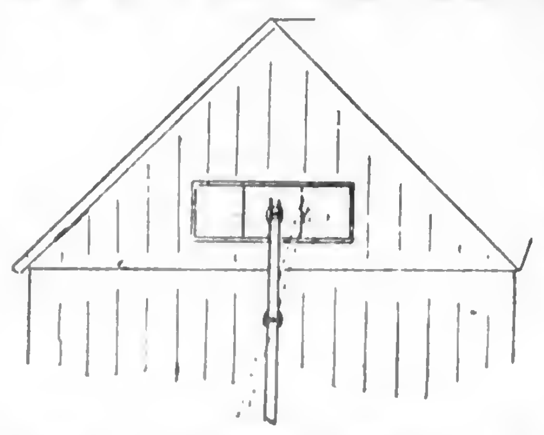
Mending Chain Pump. — When the buckets and tubing to your chain pump become so worn that it will not draw water as it ought to, cut some round buttons out of the sole of an old rubber boot large enough to fill the tubing; cut a hole in the centre of each and place them on top of the old buckets and the pump will work as well as it did when new. Make these buttons perfectly round, and holes in centre no larger than necessary.
Morrisville, Vt. A. S. MOORE.

Dibber for Setting Plants. — I can make a dibber without going to the shop. Take a good piece of fat pine (we use here what is known as lightered knots). Make it the desired length and size. Shape one end to fit the hand. Make the other end pointed so it will go in the ground easily. Dirt will not stick to it and it will wear smooth and last for years. It makes a planting peg that can't be beaten. J. N. RAGSDALE.
Danville, Va.

Cleaning Hands. — I have seen people when repairing their machinery, or handling anything black and greasy, handle it with so much care as to keep from getting their hands black, for they think it is so hard to get off. When I do such work I handle it as if it were clean. When I get through or want to wash, I wet my hands with coal oil and wash in warm water. This will leave your hands cleaner than before, and if you have any sores or cuts on your hands it will be cooling and healing to them. Let those that have black hands try it and you will use nothing else. W. E. STICKLEY.
Strasburg, Va.

Handy P. F. Binder.—Take wire, same as used in broom making, cut up 12 inches long. Sort out consecutive numbers and place in a pile with backs even. Take a sharp chisel and cut V-shaped notches 3 inches from top and bottom and one in the middle. Thread a large darning needle with good stout twine; place a piece of the wire in centre of paper and pass needle through the V-cut in front of wire. When all have been wired draw strings tight and tie. This will put your papers in book form. There are so many good things in the P. F. that they will stand referring to often. Another good plan is to make a note of such articles as may interest you most, on first page over heading. W. L. STODDARD.
Ludington, Mich.

Handy Slide Window.—The cut shows the handiest slide window I ever used for a gable or any place where a glass window is not needed. It saves climbing a ladder. Make a slide with a 4-inch board nailed across and a ½-inch bolt through the centre, long enough to reach through the slot in the lever. Another piece 2x3x4, with a bolt through the centre, is nailed onto the building, on which to work the lever. The lever is 1x3 inches, long enough to reach from the floor, made of hard-wood, with a slot 4 inches deep in the upper end. To make it work nicely, shove the slide half way open, then put the lever on perpendicularly.
Rudolph, O. O. E. SMITH.



Slop Cart.—A handy slop cart in use in our family is made as follows: To two wheels attach a barrel, and make an attachment in front with which to pull it, and the cart is finished. Keep this near the kitchen door and the door-yard will always be kept clean, as it is a handy way to carry away all slop.
Charleston, Ill. CLARENCE HUFFMAN.

A Cheap Bug Exterminator for bugs, roaches or insects of any kind is benzine or gasoline. It costs about 15 or 20 cents a gallon and will not injure clothing, furniture or bed clothes. It is easily applied and sure death to bugs. Apply with a glass or hard rubber syringe. Don't use soft rubber for it will destroy it; as it is highly explosive have no light or fire anywhere near. When using, always open windows and allow fumes to escape. I have used it seven years.
Newark, N. J. WM. S. CASTNER.

Keeping Cabbage.—When the cabbages are ready to gather in the fall, pull them up by the roots, dirt and all, and put them in cellar with the roots down on the bare ground. We have kept cabbage this way which came out in the spring as nice and fresh as when gathered in the fall.
Moravia, N. Y. CHARLES HUFF.

How long will it take the man to fill the `sack if he does not stop the leak? To attempt to nourish the body when the stomach is diseased is like trying to fill the sack with the hole in it. When the stomach and other digestive and nutritive organs are diseased, there is a constant loss of nutrition. Enough is eaten but the body loses flesh,—plain proof that the food eaten is largely wasted because it is not digested and assimilated.

Dr. Pierce's Golden Medical Discovery cures diseases of the stomach and other organs of digestion and nutrition. It stops the leaks by which nutrition is lost, and enables the building up of the body by the nutrition derived from food. The gain in weight proves the cure.

"Three years ago I was taken sick with what the doctor called nervousness and indigestion," writes Mrs. Warren E. Parker, of Orange Street, Nantucket, Mass. "He gave me medicine for the trouble, but I could not eat even a little toast or oatmeal without suffering severely. In a few months I began to have distressing pains right in the pit of my stomach. I called the doctor again and he said I had catarrh of stomach; gave me medicine but it did not do any good. I lost 28 pounds in three months. I then commenced taking Dr. Pierce's medicines and soon began o feel better. I have taken six bottles of 'Golden Medical Discovery,' two of 'Favorite Prescription' and six vials of Dr. Pierce's Pellets. I have gained ten pounds. Can eat everything."

Dr. Pierce's Pleasant Pellets cure constipation.

Our Barter Column.

Advertisements will be received for this column from our yearly subscribers only. Only advertisements of farms for sale, articles for exchange, help wanted, positions wanted, etc., will be received. Charge 1 cent per word for each insertion. No advertisements of less than 25 words or more than 10 agate lines will be admitted to the column. This column will appear each alternate week.

☞**Special Notice.** The farms advertised in this column must be the farm of the advertiser, and not placed in his hands by another person for sale or exchange. ☞ No advertisements from Real Estate Agents will be accepted for this column; they must go in our regular advertising columns at regular rates.

Wanted. Married man, with small family, to work for farmer; must be temperate. Address, Box 110, Williamsville, New York.

One good 2-year-old registered Dorset Horn Ram. A good individual to exchange for other stock. Address, FRED PATTON, Charleston, Ill.

For Sale. A farm with good buildings and bearing orchard in Albemarle County, Chesapeake & Ohio railway. Address W. S. RODES, Afton Va.

For Sale or Let. Farm of 100 acres; 3,000 fruit trees. Ten minutes from West Shore R. R.; 2 miles from Hudson River. Box 144, Athens, N. Y.

For Sale. Farm of 125 acres, 5 miles south of Newark, Licking Co., Ohio. House and out buildings. Price, $50 per acre. R. BRUMBACK, Thornville, Ohio, R. R. No. 5.

For Sale. An up-to-date—"good as new"—outfit for manufacturing brooms. Money in business, but am otherwise employed. J. FRANK WARLICK, Crouse, N. C.

320 Acres For Sale. 9-room house, orchard. Well fenced. 250 in cultivation, balance in pasture, 2½ miles from railroad town. R. W. SIMPSON, Liberty, Kan.

Position Wanted, in Virginia or North Carolina preferred, by honest young man, as farm hand. Plenty of experience. Address, EMMIT J. PHILLIPS, Lancaster, Fairfield Co., Ohio.

Wanted. Man, who understands farming, trucking and care of stock, to work on farm of 55 acres—30 under cultivation. Prefer married man, if wife will work in house. Address ASCHUKA, Berlin, Worcester Co., Maryland.

Farm for Sale. In Western Tennessee, 144 acres; 120 cleared, balance in timber; between 40 and 50 acres bottom land, new house, good well of water at house, fine spring on farm for stock; healthy country; joins L. N. R. R., on public road, 3 miles from good market, handy to schools and churches; $1000 cash. J. A. JOHNSTON, Ansonville, Pa.

For Sale. 80-acre farm, 20 in timber; good soil, good fences; three good wells; large barn, large brick house with good cellar; some fruit, some young trees; good roads, telephone, R. R. mail delivery, electric line in Spring; 2 miles from railroad; good pike roads, good markets. LOUISA I. O'NEAL, R. R. No. 2, Brownsburg, Hendricks Co., Ind.

Wanted. By an industrious young man, 22 years of age, single, brought up on a farm, using neither tobacco or liquor, a position on a farm where application to work and knowledge is appreciated; also handy with tools. Write, stating monthly wages, character of the work, etc. Address, CHARLES NAFTZINGER, Bethel, Pennsylvania.

For Sale or Exchange. Fine dairy farm, 160 acres; extra good buildings; running water in house and barn; 30 acres timber. Two miles from creameries, P. O., mills and stores. Will sell cheap for cash; $2,000 can remain. Might take small place located in Pennsylvania, New Jersey or Delaware. F. H. BURLEY, West Burlington, Pa.

185 Acre Farm for Sale, in the sunny South; 125 in cultivation and pasture; 3 branches; 35 acres in wheat; 500 apple, peach and cherry trees. Altitude, 1175 feet, in Lincoln Co., N. C.; 9 miles from Lincolnton, the County Seat, which has 2 railroads and good markets for all kinds of produce. Price, $15 per acre. This advertisement will not appear again. For information write JAS. F. HAUSS, Reepsville, Lincoln Co., N. C.

For Sale. Sixty acres fruit, poultry and vegetable land, with small cottage; close to railroad and good markets. This is a rare chance for a fruit man or Summer home. Mountain stream and springs for irrigation. Can be thrown by gravity all over farm and many hundred feet over dwelling. For health, fruit, water and climate, no better. 30 acres cleared and planted; apples and peaches. Will lease, sell, or furnish half capital to develop berry and fruit orchard. Address W. S. RODES, Afton, Va.

3 Fine Stock Farms in Virginia. For sale by professional man, 200 acres each. On railroad. Good buildings, land and climate. E. W. Armistead, Wolf Trap, Va.

FARMS, Ranches, wild, mineral and timber lands. Sell or trade. We control millions of acres. Any State. Cheapest, best. Describe wants. W. W. GAVITT & CO., Bankers & Brokers, Topeka, Kan.

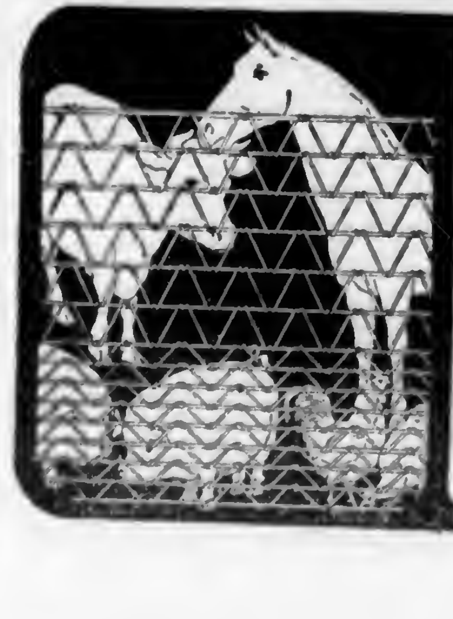
SEEDS There was more money made by Farmers and Gardeners in 1902 than in any previous year in the history of the United States. 1903 will equal if not exceed it. **SEEDS**

GOOD SEED IS SCARCE—Buy Early.

Johnson & Stokes' Garden and Farm Manual for 1903 illustrates by photographs and describes some of the greatest Money Bringers ever offered. Shall we send you a copy? It is free.

SPARKS' EARLIANA TOMATO has no competition in the extra early class,—enormously productive, large, fine, smooth, solid fruit. Has made more Hard Cash for our customers than anything ever before introduced by any seedsman. Pkt., 20c.; oz., $1.00.

JOHNSON & STOKES, 217-219 Market St., Philadelphia, Pa.



THE GREAT STRENGTH of the fence here shown above is secured by its construction. With extra heavy wires woven at top and bottom, and with continuous, strong horizontal and truss wires woven into a compact mat, it turns chickens and small pigs, and is proof against all kinds of stock.

HARTMAN Stockade Woven Wire Fence is made any height, 24 to 60 inches, of best galvanized steel wire. Meshing, 3 inches and 6 inches, has no loose ends to unwind, cannot slip or slide, but must retain original position. It adjusts itself in heat and cold, and always remains one of the handsomest and most durable farm fences made. An attractive feature is the specially low price at which it is sold. Do not fail to write for our catalogue.

CUYAHOGA WIRE & FENCE CO., Department M, Cuyahoga Falls, Ohio.

Fence builders and farmers should get our prices on Coil Spring Plain and Barb Wire. Heavy weight fence for 10c. rod to 35c. rod. Send for catalogue. W. HILL SMALL, Martinsburg, W. Va.

Patents. Royal E. Burnham, Attorney-at-Law and Solicitor of Patents, 823 Bond Building, Washington, D.C. Booklet on patents sent free. Patent Your Improvements and Make Money Out of Them.

Reduced Wholesale Prices On all kinds of fencing wire, including the best Coiled Spring Wire made. Send for catalogue describing the Cleveland Fence, Coiled Spring and Steel Gates. The Cleveland Fence Co., Cleveland, O.

HIGH CARBON COILED SPRING STEEL WIRE CATALOGUE FREE. FENCE INDIANA STEEL & WIRE CO. BOX 512, MUNCIE, INDIANA.

A FENCE MACHINE That combines Simplicity, Durability, Rapidity and Economy, The DUPLEX. It makes over 100 Styles, 50 to 70 rod a day, of Horse-high, Bull-strong, Pig and Chicken-tight Fence that combines Strength, Uniformity, Permanency, Reliability and Efficiency AT COST OF WIRE. Machine on Trial. Full information free. Wire of every description at Wholesale Prices. Write today. KITSELMAN BROTHERS, Box D42, Muncie, Ind.

PAGE

There are Some exclusive good features in Page Fences that have never been imitated, namely, our peculiar wire, and our process of coiling it. PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH. OR GEORGE W. DORAN, EASTERN AGENT, ARDMORE, PA.

TELL Your Neighbors About It. Them That We Are Selling Barb Wire $2.40 per 100 lbs THIS MONTH. We can furnish it with 2 or 4 points with barbs 3 to 6 inches apart. We Sell Woven Wire Fence at one-half manufacturers' prices. Write for delivered prices. Do it to-day.

Case Bros., Colchester, Conn. Box 440.

CERTAINLY IT IS THE FROST Better to use a fence that will wear a life time than one which will give away in three to five years. If THE FROST Fence is put up right it makes one of the best wire fences in the world. Catalogues free. The Frost Wire Fence Co., Cleveland, O.

BROWN 16 to 35 Cents Per Rod. Heaviest, strongest, most durable fence made. All wires extra large. We sell to Farmers at Wholesale Prices. Coiled Spring, Barb and Salt Galvanized Wire. WRITE FOR CATALOGUE. The Brown Fence & Wire Co. 23 Sacsa St., Cleveland, O.

KOKOMO
Steel Farm Fences

Mistakes, Failures and Successes.

In this department we publish the Mistakes, Failures and Successes of our subscribers. They are equaly instructive and necessary, pointing the way to success. Subscribers are cordially invited to send accounts of efforts they have made which resulted in failure, as well as those which proved successful. Give in a few words your experience of anything connected with farm or household work. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Only helpful communications of value to P. F. readers will be accepted. The head of the column will be considered the position of honor each week. Send all communications to Geo. T Pettit, Oneida, Kan.

Some Interesting Experiments. — I will relate my experience the past summer with rape, kale, speltz, teosinte and bromus inermis. Though the experiment was not conducted upon an extensive scale, a few conclusions can be drawn from the result. Perhaps the wet season influenced the result to a greater or lesser extent. Rape and kale made a growth of more than three feet, and appeared to do exceedingly well. Bromus inermis came up but did not live over summer. It would probably be very difficult to get a stand of this grass here. Speltz reached maturity, but it did not nearly come up to claims made by some sensational seedsmen. It did not make a heavy growth of straw and the heads were not well filled with grain. It resembles wheat a little and makes about as good hay as wheat straw, if cut at the same stage of growth. It is claimed to make good hay, but we do not want it as long as we can grow timothy or clover. Teosinte made a very good growth and appears to be able to produce a large amount of fodder, as it stools out so well. It also draws heavily upon the soil, perhaps too much so for the average soil of Southwest Missouri. If such an immense growth is removed from the ground the result is only too apparent. It makes good fodder, but no better than corn. Corn is not only the best fodder plant, but it will also yield a fair amount of grain at the same time when grown in the right way. I also tried to determine something about the vitality of cockle burr and jimson seed. Some seed of each variety was placed in a pan of water and was kept there for over two months, then planted, and within three days every one of the seeds sent up fine healthy plants. This was during the summer when the water was warm and most likely to cause the seeds to decay. Of course all are aware that a cockle burr seed has two germs, capable of producing a plant for two seasons. In this instance only one would send up a plant and if it was pulled up the other side would grow in its stead. Sometimes while only one could be made to grow, the other germ would be found in a perfect condition, perhaps calmly waiting for a more favorable season. O. F. SUNSTEDT.
Lamar, Mo.

Potato Experiment.—Last fall a year ago we dug some potatoes when the vines were still green. Of course quite a few vines were covered with dirt. Later on we were surprisd to find numerous little potatoes growing on them. Having saved a small lot I inquired of the P. F. about them and was advised to plant them and let the P. F. have the result. So we planted them by our other potatoes. It wasn't a very favorable year for potatoes, but they didn't yield nearly as much as our others, neither did they show as much vitality. The most of the other seed was taken from hills containing four or more good sized tubers. We find this the best way of keeping good seed.
Eldridge, Ia. N. MEINHARDT.

That Breachy Cow. — Having been greatly troubled with a breachy cow, I think it may benefit some other farmers to know how I cured her, after trying yokes and chains and various appliances to no purpose. I finally had a short chain put around her horns. Then I took a board 12 inches long, mitred the ends and put on each end a piece 4 inches long, same width as the board, fastening this to the chain with wire so the board would hang down over the cow's face. Fig. 1 shows the board ready to put on; Fig. 2 the board in place over cow's face. She can see to walk and eat, but not to clear a fence. MRS. HUGH LONGEST.
Bon Air, Va.

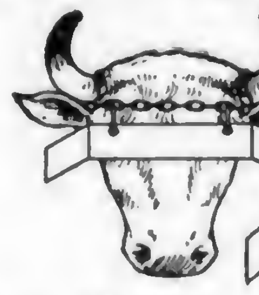


Fig. 2.

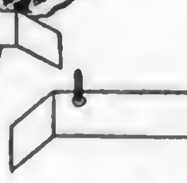


Fig. 1.

Handling Field Stones. — How many P. F. readers can remember of playing "shinny" in their boyhood days? It is a summer sport among the boys nowadays. It is played with a bat three or four feet long having a head or crook on the lower end which they use to strike the ball, stone or can. An old tin can is usually preferred because it makes more noise, and that is what the youths of our land delight in. But I started out to write of the game of shinny which I played with the stones on a new piece of ground last winter, and which, by the way, I plowed and planted to corn last spring. This piece of ground was covered very thickly with stones which I intended to remove before plowing, but it seemed a hard task to get at it before winter set in. But in February there came a sleet of rain and snow which froze as it fell and formed a hard crust nearly one inch thick, over all the ground. The stones were well embedded in the ground and ice, but not all covered up. With a long handle in a stonemason's hammer and a garden rake on my shoulder I went to the stony ground. I was soon beating at the stones with my hammer till they were loosened from their bed and went skating over the icy ground. After I had loosened a lot of them I pushed them into piles with my garden rake. It was fun at first, but I soon found there was considerable work about it, too. We continued, however, until we had one and a half acres of ground cleared of stones; that is, we had them in piles on the ground. In a few days our icy rink had melted and gone, while the stone heaps remained. When the ground dried off my grandson, 14 years old, and myself, 68 years old, began to haul the stones off. We used 6-tined manure forks for loading, which we found to be far ahead of hand work, for we could raise a forkful every time and there were no sore fingers nor backaches, as we did not have to stoop over to pick up or handle a stone while loading. My advice to P. F. readers who have a piece of land to clear of stones would be to go and do likewise. W. E. GREENE.
Rogers, Ark.

Keeping Meat.—If you would have your meat keep nicely, take equal parts saltpetre, powdered borax and black pepper. Mix together thoroughly and after the meat is smoked, clean it and rub this mixture on until no more will stick, being sure to get it into every crevice. Now hang your meat up and it will keep all the year, as flies, etc., will not trouble it. Five cents 'worth of each ingredient will be sufficient for 200 pounds of meat. E. S. FITCH.
Mackoy, Ky.

Mistake in Building Fence.—We usually build our fences of 6-inch boards; four of them with a barbed wire on top, or else three boards and two barbed wires at the top. One of my neighbors said three boards, a smooth and a barbed wire was just as good and the smooth wire only cost about one-half as much as the barbed wire. I had a mile of fence to build and of course wanted to build a good fence as cheaply as I could, so followed his plan. But last summer when the grass got short in the pasture, the cows would put their heads through above or below the smooth wire and it did not hurt, so they just kept reaching for more grass until the wire was stretched all out of shape and some of the boards broken.
Junction, Ore. B. C. SPENCER.

Cow Peas and Rye in Orchard. — I planted my young apple orchard with cow peas in spring of 1901, and when peas were harvested, and without re-breaking the ground, I broadcasted stable manure on the pea stubble and after harrowing it in with spring-tooth harrow sowed rye. This was cut in May while in bloom, for hay; my horses relished very much, and just at a time when I was very short of feed for work horses. It can be cut for hay here a little earlier than clover. The rye stubble and manure were then turned under, but it being a rainy season, I could not plant the corn till the 7th of June, which is too late for corn to mature well here; though this corn made a good solid grain on a thin clay soil. The peas left nitrogen in the soil, which, together with the stable manure, made a heavy crop of rye hay leaving plenty of available plant food to make the corn crop quickly, and the ground is again sowed to rye, which is looking nicely. This has been a successful and satisfactory job on my orchard plat, the rye preventing washing and leaching in winter. W. T. WRIGHT.
Chambersburg, Ind.

Why Women Fail with Gardens.—We live on a farm, and for several years the Madam has tried to plant a flower garden besides doing the housework, cooking and ironing for a family of six. We have found one reason for failure is that we do not begin early enough. Sweet peas should be planted as soon as the frost is out of the ground, and the seeds should be bought early. The busy housewife should not try to plant seeds of aster, verbena or other plants which require transplanting, for she will not find time to care for them properly. The young plants may be had at any florist's at a very reasonable price. Do not forget to plan for the chickens; put the wire (3-foot poultry wire is not too high) in position before planting anything, or the chickens will surely be on hand as soon as the plants are up; that is, if they are allowed to run, as on many farms, in the spring. Also the ground should be prepared and dressed in the fall. Always remember that a small plat of well cared for flowers is better than a large garden neglected. Do not plant the small seeds too deep, and do not start out too largely, or failure will be the probable result.
Abington, Mass. FRANK HATHAWAY.

Plowing.—Proficiency and decency will lead to success in farming as well as other occupations. This can as readily be seen in a farmer's plowing as in the way he keeps things in order near his house and barn. In turning land, as you arrive at the corner, you should stop so as to just break all the land loose. With a steady team and a little painstaking you can stop so as not to leave land unbroken, nor to throw out an open corner to wash. It is better to backlash one side of the land so as to never have the middle furrow twice in the same place
Winston-Salem, N. C. R. F. LINVILLE.

Good Melons.—I had good success in raising melons last year on a piece of clay soil, by first scattering manure over the land before plowing, then manuring in hills and cultivating well. The rows were marked off three feet apart, one row filled with manure and the next made into hills about four feet apart. When they came up the bugs ate some of the young plants, almost destroying the entire hill in some places. To replace them I pulled plants out of other hills and transplanted in these hills, keeping covered and watered a few days. They grew finely and I had a nice patch of melons.
Cedar Mills, O. WM. C. GRAHAM.

◆

Corn stover shredded by the McCormick husker and shredder is better than hay. Feed the stover and sell the hay.

WATER SUPPLY

Yes, the Kline Patent Hydraulic Ram will deliver to any elevation. Will operate under smaller head than any other.

With it you can elevate that spring or creek wherever you want it.

Enough said. Shall we send you circular and prices.

J. H. KLINE, Mfr., Beavertown, Pa.

ORDER EARLY

If you want to get a new buggy and want to have it made to your order you should send for the mammoth catalogue of our SPLIT HICKORY VEHICLES at once. It will tell you about our 100 exclusive styles of vehicles made of second growth Split Hickory—split, not sawed—any of which will be made as you want it and sent you on 30 DAYS' FREE TRIAL returnable after trial if not just as you expected. We have satisfied thousands and can satisfy you.

Our SPLIT HICKORY SPECIAL at $47.50 is the biggest buggy bargain in the world. Described in full in our catalogue. Send for that catalogue before you lay down this paper.

OHIO CARRIAGE MFG. CO., Station 37 Cincinnati, O.

$18.50 for this team harness, cut from oak-tanned leather, traces 1¼ in. 18 ft. lines; Hook & Territ pads. 98 styles to pick from. Single harness $4.45 to $21.00. Double, $10.00 to $45.00.

$18.60 Made in 8 sizes for this 12-16 all steel disc harrow; has genuine Ladow bumpers. Dust proof oil tubes. The Most Perfect Made. We have other style discs for $15.25. We save you about 1-3 in price.

$8.30 steel lever harrow; cuts 10 ft; 60 teeth, 2 sections. $2.10 Steel Beam Cultivator, plain, with 5 shovels.

$8 Mathews New Model garden drill, large size with 11 tools. $4.75 for the Gem seed drill only, same principle as above. If you want a garden tool, write us.

$28.75 Calumet check row planter with automatic reel and 80 rods wire. Never misses, drops in hills and drills. We challenge the world with this planter. Will ship on trial.

$9.85 for this 2 horse cultivator. Retails at $15 to $18. $15.95 for riding cultivator. Seven styles, 25 combinations. Most Wonderful Cultivator Bargains ever offered. Also Plows.

50c for Triumph Corn planter. $10.50 One-Horse Corn, Bean and Garden Seeder. Drops in hills and drills 12 acres a day. 80c Crank Seeder, Sows wheat, oats and grass seed 4 to 10 acres an hour. Five other styles. Send for catalogue.

Send for Our Catalogue It has 432 pages, size 9x11 inches. Postage is 15c, but if you will cut this ad out and send it to us we will mail the catalog FREE. MARVIN SMITH CO., 55-57-59 N. Jefferson St., CHICAGO, ILL.

DAN PATCH
Officially Timed at Readville, Mass., Sept. 23, in 1:59 ¼
Champion Harness Horse of the world.
This Engraving was made from a Photograph taken when ready to race.

THE $60,000 PACING STALLION

Just purchased by M. W. Savage, Minneapolis, Minn., as one of the leading stallions for his "International Stock Food Farm." The purchase of Dan Patch was a tremendous sensation in horse circles, and was taken up and given columns of notices in all of the leading dailies throughout the entire country. The price was over Three times as much as was ever paid for a pacer, and by far the largest price paid for a harness horse for a long term of years. This farm is now one of the most famous horse-breeding farms in the world, as Mr. Savage owns the Three Fastest Stallions ever owned by one man or by one farm, Dan Patch 1:59¼—Directum 2:05¼—Roy Wilkes 2:06½. The establishing of this farm in Minnesota, 12 miles from Minneapolis, means a great deal for the live stock interest of the Northwest as well as for the entire world. It will add thousands of dollars every year to the live stock interests of Minnesota alone, and Mr. Savage expects to prove to the world that high-class harness horses can be raised in the Northwest as well as in other parts of the United States. You are cordially invited to visit "International Stock Food Farm" whenever you are in this vicinity. You will find the celebrated "International Stock Food" ☞3 FEEDS FOR ONE CENT☜ fed every day to our Stallions, Brood Mares, Colts, Race Horses and other stock. "International Stock Food" has the largest sale in the world for Horses, Cattle, Sheep, Hogs, Colts, Calves, Lambs and Pigs. Over 50,000 dealers sell it on a "Spot Cash Guarantee" to Refund Your Money if the results of feeding it are not perfectly satisfactory to you. It will cause your colts and other young stock to grow rapidly even during the winter. Keeps them free from worms and tones up and strengthens the entire system. ☞It Will Pay You To Test It At Our Risk On Your Stock.

A $3000.00 STOCK BOOK FREE

IT CONTAINS 183 LARGE ENGRAVINGS OF HORSES, CATTLE, SHEEP, POULTRY, ETC.

The Cover of this Book is a Beautiful Live Stock Picture ☞Printed in Six Brilliant Colors. Book is 6¼ by 9½. See engraving for greatly reduced design of cover. It cost us $3000 to have our Artists and Engravers make these life Engravings. This Book contains a Finely Illustrated Veterinary Department that will Save You Hundreds of Dollars. It describes common Diseases, and tells how to treat them. It also gives Description, History and Illustrations of the Different Breeds of Horses, Cattle, Sheep, Goats, Hogs and Poultry. It contains testimonials, and Life Engravings of many very noted Animals. The Editor Of This Paper Will Tell You That You Ought To Have This Book In Your Library For Reference.

$10.00 CASH, we will send you, IF BOOK IS NOT AS STATED.

This Book Mailed Free, Postage Prepaid, If You Write Us (letter or postal) and Answer These 2 Questions: 1st.—Name This Paper. 2d.—How Much Stock Have You?

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Largest Stock Food Factory in the World. Capital Paid In, $1,000,000. We Occupy 62,000 Feet of Floor Space.

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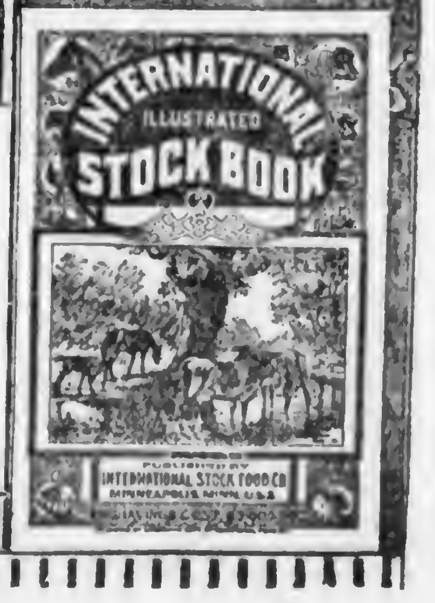

Postal Card Correspondence.

This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

Located in Mason Co., W. Va., 9 miles from Kanawha River, 15 miles from Ohio River. Mason Co. lies in between Ohio and Kanawha Rivers. The rich valleys along Kanawha and Ohio Rivers are well adapted to agriculture; the hills to fruit growing. This county is coming to the front in agriculture and horticulture, there being two Farmers' Institutes in the county, about four active Granges and a county horticultural society. There is a great deal of fruit grown in this county. Several coal mines; also salt is mined along the Ohio River. This county has been well timbered, but the timber is about exhausted; the people will have to turn their attention to something else. They are getting more prosperous as the timber gets scarcer. Point Pleasant, at the mouth of Kanawha River, is the county seat. The K. & M. R. R. runs along Kanawha River; O. R. R. R. along Ohio River. Some prices: Horses, $75 to $100; cows, $25 to $35 each; cattle, on foot, 2½ to 3c.; hogs, 6c. per lb.; eggs, 25c. per doz.; butter, 15c. per lb.; wheat, 75c.; corn, 50c. per bu. W. F. GARNES.

Elmwood, W. Va., Jan. 19, 1903.

Located in the southeastern part of Richland Co., North Dakota, 8 miles from the county seat, Wahpeton. Land, 2 feet black loam, clay subsoil. Cash crops are wheat, oats and barley; some corn and flax raised. Wheat, 66c.; oats, 28c.; barley, 38 to 50c. per bu.; butter, 20c. per lb.; eggs, 25c. per doz.; beef, 6c.; pork, 6c. dressed; chickens, dressed, 10c. per lb.; good horses, $50 to $150; good cows, from $25 to $50 each. Very dry fall; lots of plowing done. Past week has been cold and stormy; snow a foot deep on the land. Land worth from $30 to $40 per acre, according to location. Hired help very scarce, both indoors and out.

MRS. E. J. HASTY.

Tyler, N. Dak., Jan. 17, 1903.

We are now having some very cold weather. We have not, however, had any snows this winter. The Montmorenci section of Aiken county is the best farming land it contains. Land here sells for from $50 to $100 per acre. Land adapted to corn, cotton, peas, oats, potatoes, etc. A great deal of land averages a bale of cotton per acre; one farmer grew 36 bushels of wheat per acre last season. Cotton is the principal crop, corn next. A great many farmers still have their cotton; some are selling now, as there is a good price, 8⅜c. for middling. Montmorenci is a small town located on the Southern Ry., 5 miles from Aiken, the county seat. It has good school facilities, two churches and several stores. Everyone farms for a livelihood.

ROBT. M. HITT.

Montmorenci, S. C., Jan. 19, 1903.

Located 45 miles east of Buffalo, on main line of N. Y. C. & H. R. R. R. But little snow now on the ground, and has been but little sleighing this winter. Apples were a heavy crop but were of rather poor quality, on account of the fungus or scab so prevalent in Western New York. Most of the fruit is still in farmers' hands, being barreled and in cellars; at present about $1.25 per bbl. is all that is offered for them. Cabbage largely grown last season, but there was no market for it last fall at any price; some has been bought the past three weeks at $4 to $5 per ton. Potatoes were so light a crop that where in other years 100 cars would have been shipped by this time only two cars have, as yet, been loaded. Farmers had room in their cellars to hold their entire crop; now selling at 50c. per bu. at car. Hay brings $8 to $10 to bale, and the crop is large. Wheat is 70 to 72c.; barley 55c. per bu.; pork, $7.75 per cwt. J. F. ROSE.

Byron, N. Y., Jan. 20, 1903.

The wet weather has continued until a few days ago. Rain but no snow. At present the ground is frozen quite hard; roads very rough. Has not been much below zero yet. Not much fall plowing. Farmers not done husking corn. Corn is the principal crop in this locality, with timothy hay a good second. Not as much wheat sown last fall as usual, on account of wet weather; what there is, is the second and third sowing, and looks well. Not many apples. They fell off badly and are not keeping very well. Sweet potatoes were of a poor quality generally, last year. A good many Irish potatoes. A good many bees in this locality, but did not make much honey on account of the wet season. Prices: Eggs, 20c. per doz.; butter, 18 to 20c.; pecans, 5c.; hens, 7½c.; chickens, 2 lbs. and under, 10c. per lb.; hogs, $5.60 to $5.75 per cwt.; potatoes, 25c.; turnips, 25c.; onions, 50c.; corn, 30 to 32c. per bu. Farmers are still considerably behind with their work. Long life to P. F.

W. L. TULL.

Walker, Mo., Jan. 17, 1903.

Located 9 miles north from Lincolnton, the county seat of Lincoln Co., in a wheat and cotton section. Most of our soil is deficient in humus. Farmers could supply this lack cheaply by following the P. F.'s advice. We have roller flouring mills every few miles all over the county. Also seven cotton mills in and near Lincolnton, two railroads and two more new railroads surveyed. Our first killing frost appeared the last days of December; on Jan. 8, 9 and 10 the ground was frozen about 2½ inches deep, but on the 11th we had a perfect thaw. Prices: Land, $10 to $25 per acre; corn, 60c.; wheat, $1; rye, $1; cow peas, 75c. per bu.; pigs, five weeks old, $2 to $2.50 each; cotton, $8.10 per cwt. Cattle, horses and hogs high. Our free school term is four months.

JAS. F. HAUSE.

Reepsville, N. C., Jan. 19, 1903.

Located in North Canadian River bottom, 1½ miles from Oklahoma City, O. T. The last two or three days have been pretty cold. November and December were uncommonly wet. Wheat not so good, from effects of too much rain. Main crops here are wheat, cotton, oats and corn. Alfalfa is proving to be a success. Some cow peas grown and they do well. Quite a good many cattle and hogs raised. Irish potatoes, sweet potatoes, onions, watermelons, muskmelons, apples, peaches, cherries, plums, grapes, strawberries, blackberries and nearly all kinds of garden truck do well. Prices: Wheat, 62c.; oats, 36c.; corn, 39c.; potatoes, 85c. per bu.; horses, $75 to $140; plugs and ponies much cheaper; milch cows, $35 to $50 each; fat cattle, 3c. per lb.; fat hogs, $5.60 per cwt.; butter, 25c. per lb.; eggs, 20c. per doz.; farm hands, $15 to $17 per month and board. Teachers, $35 to $40 per month. Farmers are selling wheat rather freely now, fearing prices will get no better. We are well up with our work. Oklahoma has a mild climate and short winters. B. F. DOUGHERTY.

Oklahoma City, O. T., Jan. 16, 1903.

Located in Bedford Co., in the middle division of Tennessee. The surface is generally level, the soil calcareous and of good quality. Shelbyville is the county seat and has about 4,000 people. The climate is mild. Duck River passes through the central portion of the county, furnishing abundant water power. We have plenty of well and spring water. The N. C. and St. L. R. R. passes through the eastern portion of the county; a branch line runs to Shelbyville. The crops in this county were almost a total failure last season, on account of the severe drought; we had no rain for over five months. We have had a wet fall and winter. Wheat looks well; no fly as yet. We have had a mild winter up to this time; no snow, and the thermometer 12 degrees above zero once. Our county has six rural delivery routes, with five more laid out. Duck River is spanned by a fine steel bridge every place where a bridge is needed. Our county works the county prisoners on the highways, and we will soon have good roads in every part of the county. Have good churches and schools. The markets are about as follows: Corn, 48c.; wheat, 73c.; oats, 40c.; Irish potatoes, 75c.; sweet, 60c. per bu.; hay, timothy, $18; clover, $17 per ton; eggs, 20c. per doz.; turkeys, 12c.; chickens, 8½c.; sheep, 3 to 3¼c.; cattle, 3¼ to 4c.; hogs, 6c. per lb.; mules, $50 to $175; horses, $50 to $150, and scarce; mules also scarce; bran, $17.50 per 2,000 lbs.; rye, 65 to 70c. per bu.; farm labor, 50c.; railroad trackmen, 70 to 90c. per day; good farming land, $20 to $100 per acre; school teachers get $25 to $100 per month. W. M. MILLER.

Shelbyville, Tenn., Jan. 19, 1903.

Located in western part of Davidson Co., Middle Tennessee, 10 miles from Nashville, on Clarksville Division of Tenn. Central R. R. and on Cumberland River. Country here hilly timber land, with rich creek and river bottoms. Fine stock raising and general farming country. Rural mail delivery well established and being rapidly extended. Construction of two new railroads (one steam, the other electric) being pushed. Work on three more electric railroad lines to begin soon. These lines radiate from Nashville to Columbia, Gallatin, Clarksville, McMinnville, Harriman and other points. Farm labor scarce and higher priced, on account of railroad construction. Land, $3 to $50 per acre; corn, 49 to 53c.; wheat, 66 to 73c.; oats, 39 to 45c.; potatoes, 70c. per bu.; hay, timothy, $16.50 to $19.50; mixed clover and timothy, $17 to $19; clover, $16 to $17.50 per ton; eggs, 21c. per doz.; butter, 23c.; cattle, 2½ to 4½c.; hogs, 4½ to 6c.; sheep, 2½ to 4½c. per lb.

E. J. ADKISSON.

W. Nashville, Tenn., Jan. 19, 1903.

Situated in the southeastern part of the State, in Neosho Co., in a farming country. Raise the ordinary list of farm crops. Past season extremely wet, but crops all good except flax, which was a failure. Farmers backward with their work; no fall plowing done. Plenty of gas and oil talk, with some wells being sunk. Business of the country held back some on account of scarcity of cars, although we have plenty of railroads. Apples scarce; rotted in fall; now worth $2; potatoes good, worth 50c.; wheat fair, 55c.; oats yielded from 25 to 40 bu., selling now for 25c.; corn, 25 to 60 bu., 30c. per bu.; hogs high all fall; now worth 5¼c.; chickens, live, 7½c.; butter, 18c. per lb.; eggs, 20c. per doz. Cattle looking up again, especially milch cows. A good fresh milch cow will bring $40 to $50. Land here sells for $20 to $30 per acre; some of it needs some "Terry" farming; too much plow and not enough clover rotation. If the P. F. were taken and its teachings put into practice it would work wonders here. W. B. ORANGE.

Galesburg, Kan., Jan. 17, 1903.

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Post Check Currency.—The persistence with which great numbers of people send small sums of money by mail, notwithstanding the obvious risks of loss, is a sufficient indication of the need of some form of easy and safe remittance of small amounts. It is greatly to the discredit of the Government that after so many years of experience with postoffice money orders, the system in use is still unsatisfactory. There is something like genius in the novel but exceedingly simple proposition to issue small bills with a blank in which the name and address of a payee could be written and thus instantly transform an ordinary bill for $1 or $2 into a check or a draft on the Government for that amount, payable only to the payee named, but on which he could get his money at any postoffice where he could be identified, as readily as if it were a New York draft for the same amount. Notwithstanding the simplicity of the plan, Congress has failed to adopt it. Any enterprising business house to which an improved method of so great value should be suggested would unhesitatingly and enthusiastically adopt it. The only valid objections to the plan are that it might make some additional work in the treasury department. If that is a sufficient reason why millions of people should be denied the advantages and conveniences which this simple method offers, the proposition should be abandoned. If not, Congress should make short work of the matter. If Congressmen take an intelligent interest in the question long enough to understand what the measure is, we shall soon have the most important and widely appreciated improvement to our postal system that has been made in many decades.—Case and Comment.

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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

A Cow Ration for an Illinois Farmer.

C. L Armentrout, Witt, Ill., asks the P. F. to figure out a ration for his cows, using, as far as practicable, the different kinds of feed he produces. These are principally clover hay, shredded corn fodder, corn and oats, he says. By corn fodder I suppose he means the corn stalks from which the ears have been removed. This is usually called corn stover in the stables. Corn fodder is the name given to corn grown rather thicker than ordinary corn, entirely for fodder, no ears being taken off. Now, suppose you try feeding a 1000-pound cow about the following amounts of the different kinds of food named per day:

	Dry matter.	Protein.	Carbohydrates and fat.
15 lbs. corn stalks	9	.255	5.160
7 lbs. clover hay	5.95	.476	2.772
5 lbs. corn meal	4.45	.395	3.820
2 lbs. oats	1.78	.184	1.136
3 lbs. wheat bran	2.64	.366	1.359
1½ lbs. cotton seed meal	1.38	.558	.666
Total	25.20	2.234	14.913

The protein and carbohydrates and fat in this ration are almost exactly right. There is a little too much dry matter, but this is not very material. I would feed the shredded corn stalks half in the morning and half at night and the clover hay at noon. Mix the grain feed together and feed half in the morning and half at night, dry. You do not need to weigh the hay and corn stalks. A 1000-pound cow will eat about the amount named in connection with grain feed if you give her what stalks she will eat up fairly clean, morning and night, and the same with clover hay at noon. A healthy cow giving a good flow of milk, will have an appetite for about the amount of food named in table above daily. If she weighs more or less increase or diminish the feed in proportion. When I fed cows I always gave them the grain first, then the coarse feed. If I reversed the order of feeding they would nose over the hay and not eat it clean, and wait for grain. Having been fed the grain they would quietly eat what coarse feed they needed to balance the ration. Be systematic and feed the same way every day, and at same time. It would be well to start with half the amount of cotton seed meal and increase in a few days, after they get used to it. If cows have never eaten any they may not take to it at first. If so, put in still less for a time, and mix well with the bran, ground oats, etc, in any event. Clover hay is of itself a fairly balanced ration; but it is hardly condensed enough so the cow could eat and digest sufficient to enable her to give full flow of milk. The oats also come near being a balanced food; that is, they contain all the nutritive properties the cow needs in about the right proportion. But if you fed a cow entirely on oats she could not stand it, because her stomach was made for more bulky food. The corn stalks and corn meal are deficient in protein. They are considerably out of balance. Now the wheat bran and cotton seed meal, particularly the latter, have a large excess of protein; hence they are good feeds for you to buy to go with your corn and stalks. There are several other kinds of feed that can be used for this purpose; these are perhaps the ones you can get the most readily. I have worked into the ration about all the products you grow yourself, that one can safely do. You must buy some protein. You can surely get wheat bran, and any dealer can get you cotton seed meal. It would make no great difference if you used linseed oil in its place, the same quantity, if it is more convenient to get. The result would be about the same. You speak of having some oat straw. Give the cows a feed of that occasionally for a change, instead of corn stalks, if cows eat it readily, and I think they will if it is bright and oats were cut early and you give them the grain feed mentioned.

Poultry Matters.—Three-Quarters of the Egg for Nothing.—Physical Culture for Hens.—Mrs. Ida Tilson, the well-known Wisconsin expert, talks on poultry matters at the Minnesota Institutes this winter. One thing she says is that the egg is 74 per cent water. Yes, it is just about three-quarters water. Well, what of that? Why, probably not one person in ten keeping poultry gives the hens water enough, regularly and systematically, so they can do their best laying eggs. They must have water to make eggs of, and if they do not get enough they simply cannot make as many. That is all. They cannot drink when the water is frozen, as it often is. One man said he shoveled some snow into the hen house occasionally. Such watering is more handy than productive of eggs. There are watering devices with lamps that will keep water from freezing, but they cost something, and oil costs money, too, and there is some risk from fire. Mrs. Tilson depends on taking out fresh water, or hot bricks wrapped in carpet, each time she goes to the hen house to feed the hens, or gather eggs. The water dish is lifted and bricks placed under it. Thus no extra time is spent attending to the water. One can soon form the habit of taking along some fresh water, or hot bricks, in cold weather when water freezes. Experts usually have the hen houses about frost-proof, but farmers generally will not. But a little care will give the hens water enough, fresh daily, clean and not frozen. The hen drinks but little, to be sure, but that little, what she wants, is as necessary for highest egg production, as the water a dairy cow wants is for producing a full flow of milk. You would not keep a horse or cow with poor teeth. Why? Because if they could not chew their food thoroughly it would not be well digested and some would be wasted and the animal would not do well. You say a hen has no teeth to give out. Hold on now and think a little. Her teeth are the sand, gravel and other grit she eats. These grind up her food. Without them she cannot grind up her food. Without them she cannot grind it, or prepare it for absorption, properly, any more than a horse can that has poor teeth. When you fail to furnish the hens with proper grit in the winter, when they cannot get it on the ground, out of doors, you are wasting food. It must take more feed to keep the hens and they will not do as well. You are withholding, or not supplying, what takes the place of teeth in their organizations. Mrs. T. tells of going without gravel, sometimes, because she had to send a team some miles for it, and invariably the consumption of food increased and egg production fell off. Remember now, that hens need teeth and you must furnish them daily for best results. Vegetables are good for hens, particularly beets and cabbages. They furnish succulence, summer food, something as silage does for cows in winter. And more, Mrs. T. says the vegetables furnish lime for the shells in a very available form. Then they give the hens exercise and a variety of food—make life more pleasant to them, which always tends towards increased egg production. Don't you understand the exercise business? Well, hang up a cabbage in the pen some winter morning, by a string, head down, just high enough so the hens will have to jump a little to get a bite, and watch them enjoying their feast and physical culture exercises at the same time. If you want to see some more fun and happiness drive a spike through a board on the ground, turn point up, and stick a nice beet on it. There, you have your egg more than three-quarters done and at almost no cost. For the other rather less than one-quarter you must feed grain—less if their teeth are good, remember.

Health Hints. — The Power of the Mind Over the Body. — Work for Health with Absolute Faith in Your Success.—Several years ago, when the writer was sick in New York, a first-class physician was employed. He appeared to know his business perfectly. After analyzing the urine, as he said, he understood the case exactly. He told friends I was in a critical condition; however, I got better in a few days. Before I left he said to me: "You are subject to kidney trouble. There is an excess of acid in the urine. In the future you must never eat anything sour—vinegar, sour strawberries, sour oranges, lemons, etc. They will aggravate this chronic trouble of yours." This was said with authority, and I had no more doubt of the truth of the statements than I had of being alive. His manner and earnestness made it a settled fact in my mind. I did just as he told me, for years, except that once in a while the desire for sour strawberries, or some lemonade, was too great, and I ate a few, or drank a single glass, always expecting to pay dearly for it. In every single instance my symptoms grew worse after indulging in this way, showing conclusively to my mind that the doctor was right, of which I had never had the slighteset doubt, however. During the warm weather in particular how I did want something sour. At last I would indulge, and increased trouble would come in a few hours. Sometimes I kept at it, but soon was in such distress that I was only too glad to quit it. Although the doctor's directions were carefully followed, as a rule, and other good doctors consulted, life was a burden much of the time during those years. Well, after a time I began to think and study over the matter in dead earnest. My old motto, "Where there is a will there is a way," came to my mind, and I wondered why that could not be applied to curing bodily troubles as well as poor land and hard times. Being in a frank mood today, let me tell you that my first inspiration came from a so-called fakir. When I was completely discouraged, could not eat anything scarcely without its hurting me, and doctors and medicine did no permanent good, a circular happened to come from a man who promised to cure any disease, no matter how bad, if the breath still remained in the body, and to do it entirely without medicine. Treatment, $5 a month. I read it to wife, making fun of it, of course. She said: "If there is any possibility of his helping you any, why not try him. If you do not take anything he cannot hurt you." Now I knew it was all a humbug, but, just for the pleasure of studying the scheme, and having something new to think about and to help pass away the time, I sent $5, with description of my troubles. The reply came promptly and was overflowing with hope and unbounded assurance that the writer could not fail. He impressed on my mind with wonderful force, what I was fairly well up in before, that I must have more oxygen from breathing more fresh air, for one thing. But here was the great point, which I copy from his letter: "Just settle it, once for all, in your mind, that you are going to get entirely well, sooner or later, doctor or no doctor, as you certainly are." Why, my dear friends, I went down stairs after reading that inspiring letter, like a boy, and within 24 hours new life began to come into my body. The mind, the spirit, was roused marvelously by the positive assurance, or magnetism, or whatever you call it, of the man, and, frankly, he did far more for me than all the doctors had been able to do; and still not long afterwards the postal authorities arrested and fined him for using the mails to swindle people. Doubtless his game was to make money, and he claimed to do what he could not, but I was vastly more than satisfied with the value I received for my money, and before I get through you shall judge about the doctors. Among other things, I got some good litmus paper at a drug store in the city, and began to keep an exact record of what I ate and drank daily, and how I felt, and the condition of urine. Litmus paper, you know, is blue but turns red when wet with acid, more or less, according to the amount present. In due time it was proven, absolutely, that when I felt the worst and suffered most there was the least acid in the urine. When I told this to one of the physicians who had tried in vain to cure me, he said at once, "It is an alkali condition, then, that is making the trouble." Oh, why couldn't he have discovered this years before? Well, I at once made a quart bowl full of good, strong lemonade and never took it from my lips until the last drop was drained, and another quart went the same way before night. Oh, how good it tasted! I had craved it so. It did not hurt me at all; in fact, I at once felt better. I knew when drinking it, absolutely, that the doctor had been wrong. Not ten days before, my wife had lemonade on the

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table at dinner time and I wanted it so badly that at last I drank one glass, expecting it would hurt me, as the doctor said, and it did. There is no chance for mistake in this matter; I know what I am writing. I now use lemons freely whenever the acid is craved. I carry lemons and sugar with me, winters, always. My troubles in the past came partly from withholding from the body the very fruit acids that it needed and craved sometimes almost beyond endurance. You may gather several points from this article. One is the marvelous power of the mind over the body. When you determine to get well anyway, whether or no, you have made a tremendously long step in that direction. I confess I could not believe myself that the very thing I needed would hurt me, just because I was certain it was going to, if I had not actually had years of experience in the matter, on both sides of the question. Many a physician owes his success not to the drugs he gives, but to the power he possesses of making patients certain they are going to get well right along. On the other hand, unscrupulous doctors can keep their patients back and line their own pockets. As the space is more than full you may look for the other points; they are easy to find.

T. B. Terry.

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Sorghum as a Forage Crop.

J. D. TAYLOR.

I once heard a good farmer say he believed he could raise three times as much feed on an acre of sorghum as any other crop he ever tried. Having raised several crops (solely for feeding stock) my experience is very much the same, though we have no Geo. M. Clark yields of hay in this country, nor farmers with enough enterprise to make the effort he has. With us it can be planted any time in May or even as late as middle of June, on rich land, a rich bottom preferred; it won't pay on poor land. It is usually drilled in rows about 3½ feet apart. I prefer to step-drop it and put from 5 to 10 seed in a place, about 2½ feet apart, so a man can take hold of several stalks and cut with a corn knife faster than if it was scattered all down the row. The seed are very slow to come up in dry, hot weather; this can be greatly overcome by pouring water over them, hot as you can bear your hand in, and let them soak from 12 to 24 hours. It should be kept clean and worked until 2 or 3 feet high, after that it will outgrow and keep down weeds and grass. Don't think there is much substance in it for feed until after it begins to make seed, and juice in stalk gets sweet, about like clover before and after it heads out. My plan for saving has been to lay off for shock rows and cut half of it and let it lie on ground till partially cured by the sun, say from ½ to 1½ days, according to weather and heat of sun; then set it up and cut the other half and add to it; it is too heavy to shock like corn, and best to set two posts in the ground securely, 8 feet apart, and nail a scantling on top 16 feet long, so each end will extend 4 feet beyond the posts, (would do just as well to cut forks in woods and lay a pole in them) and set sorghum on each side of pole; this leaves open space for air to circulate between pole and the ground; pole should be about 4 or 5 feet high. It keeps very well this way left in the field to haul in as used, though it would be better to haul and store in barns before cold weather, as stalk dries up and loses most of its feeding value after it freezes; if put in barn it must be set up, as it won't keep lying down. I have found it good Winter feed for both cows and horses, and never had any bad results from feeding it, though always gave it as part of daily ration with other feed; began by giving little at a time; carried my mules and horses through several Winters in very good fix by giving them cut oats and sorghum at night and 5 ears corn and mixed clover hay in morning for daily feed. I've used sorghum to help out dried up pastures, by planting it inside of fields next to pasture to cut and give to stock in August and September. Have seen horses begin at one end of stalk and eat it up with the sticky juice running down each side of their mouth, and almost smiling, with a look of "solid comfort" on their brow such as can be carried only by the well fed horse.

Montgomery Co., Tenn.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Growing Oats in South Piedmont Virginia.—L. Sterling Thomas, Martinsville, Va.—"I shall be glad to receive some practical advice on the cultivation of oats. My farm is in South Piedmont Virginia, five miles from the North Carolina line, 750 feet above tidewater, a chocolate clay loam with tough red subsoil. It easily produces from 20 to 25 bushels of wheat per acre. The field I wish to sow in oats was plowed last spring to the depth of eight inches, turning a fair clover sod. It was planted in corn and made 45 bushels per acre. It was intended to sow wheat and clover last fall, but this purpose was defeated and the field stands with corn stalks uncut. Please make suggestions as follows: First, how should the land be prepared? Second, when should land be seeded. Third, where could the best oats for my purpose be had, and what variety, whether Southern, local or Northern grown? Fourth, how much seed per acre. Fifth, assuming that the land is reasonably well supplied with nitrogen, how much acid phosphate and potash should be used?" We would say, in the first place, that oats sown in your climate in the spring seldom amount to much as a crop. For the best results with oats you should always sow them in early September, on well prepared land, but as you are obliged to sow in the spring we would take the stalks off the land and rot them elsewhere, for manure, since they will interfere with the getting of the soil into shape for oats. We would then prepare the land by a thorough plowing and harrowing as early as it could be gotten into good condition in February or March, and would drill two bushels or two and a half bushels per acre of Gray Virginia Winter Turf oats. These are usually sown in the fall, but still are better for spring sowing in your climate than any Northern oats. You can get the seed easily in Richmond, and on land of the character you mention we would use 300 pounds per acre of acid phosphate and 25 pounds of the muriate of potash. But, as we have said, the growing of a good crop of oats from spring sowing, in your climate, depends entirely upon the nature of the season and the chances are that the crop may not be a very large one.

Orchard Culture in Mississippi.—W. T. Rehse, Brandon, Miss.—"My orchard will be three years old this summer. The first year it was cultivated in sweet potatoes. Last year it was not cultivated but I cut the grass for hay. My idea is to plant this orchard as well as my new one, in peas and cut them for hay and then turn under the stubble and sow rye as a winter cover. Am I doing right, or would it be better to cut the grass as you advise, and let it remain on the land." Your letter shows how hard it is to get people to understand and carry out a definite plan. A young and growing orchard should be well cultivated every summer up to July. Then it is best to sow it in peas. But put the peas there for the benefit of the trees entirely, and do not cut them for hay. You need them there to add moisture-retaining humus to the soil. You cut off, last season, the natural growth of grass, and doubtless injured the growth of the trees, for the growth of the grass took the moisture that the trees badly needed. Now you propose to use another moisture-absorbing crop and cut it off for hay. An orchard, to be a success, especially in the South, needs all the moisture in the soil it can get during the making of the season's wood. Hence an early low-growing crop, well fertilized and cultivated in the early part of the season, may do no harm. Then, when the trees have made their wood growth for the season sow the peas. When the peas ripen and begin to shed their leaves, sow crimson clover all among them, and if the clover fails you will still have time to sow rye. Keep up this practice of cultivation in the early part of the season while the trees are developing, and you will be getting a large amount of organic matter into the soil by turning under the dead peas and clover or rye in the spring. When the trees get into a bearing age seed the land down to grass thickly. Cut this grass several times a year and leave it on the land as a mulch for the trees, and then annually give the land a dressing of bone and potash and you will get fruit, and plenty of it. In short, all that you do to the land, do it for the benefit of the trees. While they are young you want them to make all the growth you can get, and when they are well developed the seeding down will give something of a check to rapid growth that will be favorable to fruiting. Grass cultivation for a mature orchard is the best possible treatment if the grass is grown solely for the benefit of the trees.

Catarrh

Is a constitutional disease.

It originates in a scrofulous condition of the blood and depends on that condition.

It often causes headache and dizziness, impairs the taste, smell and hearing, affects the vocal organs, disturbs the stomach.

It is always radically and permanently cured by the blood-purifying, alterative and tonic action of

Hood's Sarsaparilla

This great medicine has wrought the most wonderful cures of all diseases depending on scrofula or the scrofulous habit.

HOOD'S PILLS are the best cathartic.

Permanent Pasture. — "Subscriber," Sweet Water, Tenn., says that he has gray slate land with good clay subsoil, that will hold water in a pond, from rain. He wants to sow grass for permanent pasture. Land is in oats and rye at present. Wants to know what to sow and how, and whether it would be best to sow grass in corn land this fall, on same character of land, or sow in oats and rye and seed in grass in the spring. It would seem from what you say that the land would be benefited by being underdrained. Still, if water does not stand long on it, and oats and rye winter well on it, grass should do well. In your section the grass should always be sown in the fall, though success may be had by spring sowing, where the land is prepared for the spring crop, but we would not expect much success from sowing grass seed on the oats and rye this spring in their present condition. We would cultivate the land this summer and seed down after thorough preparation in the fall, using a mixture of tall meadow fescue, red top and English blue grass or poa compressa, using not less than six pounds of each kind per acre. You can either sow it alone or with a crop of rye.

KILLS ALL WEEDS

Expands To 7½ ft. Narrows To 30 inches

NOTE THE "A" SHAPE.

This admits of widest adjustment—7 1-2 feet wide for field work and can be narrowed down to 30 in. for work between rows. Front wheel makes it run easy and steady. Furnished either with round teeth or with flat to suit the different soils, as we are licensed by the Hallock Weeder Company to use their famous flat tooth. We mail Weeder Booklet Free. We also make a full line of Corn Planters, Cultivators, Harrows, Rollers, etc. Ask for Catalogue C.

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ordered fence direct from our factory this year. Many of them had done so before and had found that our

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Cow Peas.—A. J. Kuydendall, Vienna, Ill.—"Please inform me through the P. F. whether there is any variety of cow peas which will mature seeds in 60 days in this latitude, 37 degrees 30 minutes, and if so, where can I procure the same? What would you consider a fair yield per acre of peas in pounds of pork? Hogs to have all the corn they will eat while on the peas. Land produces about 12 bushels of wheat per acre. Which would be better for hogs pastured on newly cleared land, sorghum or oats?" When sown after the ground is warm, we think the Warren Extra early, or the Early Black Eye pea will ripen seed in 60 days. You can get either of these from Wm. Henry Maule, Philadelphia. Sown broadcast you will need one bushel per acre. Planted in drills like beans and cultivated, a half bushel or less will answer, and in this way they will make more peas than when sown broadcast. The Black Eye will make more peas than the Warren per acre. For hog feed we would turn the hogs on the peas when ripe and let them eat down the peas, giving them no corn. We do not know of any experiment demonstrating the amount of pork per acre that can be made with peas, and, of course, it would depend entirely upon amount of the crop. But they are valuable feed and will fatten the hogs rapidly to the point where they should be hardened off with an exclusive corn feed. As a hog pasture it would be hard to compare sorghum and oats, because they would come at different seasons. The oats would be good in the early part of the summer, while the sorghum would come on later. Both would be good in their proper season.

Corn in Texas.—W. B. Kendall, Terrell, Texas.—"Is it possible to raise 100 bushels of corn per acre on highly fertile land, with good culture, in Texas? If so, how thick should corn be left in the drill with rows 3 feet apart? I want to get the earliest variety of large eared field corn, for we generally suffer from drought by the first to tenth of June. We plant corn the last of February or first of March. I want a corn that will mature in 90 days, if possible to get such a variety, that will produce a heavy crop of ears and soft grains. I want a small, short stalk that will bear close planting, as we do not need fodder. Some of the farmers here planted corn last spring that was shipped from Kansas for feed. This corn came extremely early and the stalks were small, but the ears were also small and made only about 15 bushels per acre on good land. Stalks were left 4 feet apart in 3-foot rows. But that was the only variety of corn that made anything in the county; later corn did not make a grain, on account of drought. I want to get a Northern corn that will be as early, with small stalk and large ears. Price cuts no figure. I want good seed and I want to demonstrate that on a piece of good land, highly fertilized, I can grow 100 bushels of good corn." We hardly think that any corn brought from a distance and planted in a new climate will produce its best crop at once. Corn brought from the North to your climate will naturally be early, but earliness and a large crop in your climate are not always synonymous terms. Then we think that with any corn in your climate, you are making a mistake in making your rows 3 feet apart. We think that if you will plant your corn in rows about 4 feet apart and then leave the stalks about 10 inches apart in the rows, you will make far more corn than by putting the rows closer together and the corn further apart in the rows. We do not know of any corn that would promise to meet your conditions better than the corn known as the New Klondike, which is offered by Wm. Henry Maule, of Philadelphia, or Maule's Improved Mastodon Corn. The Mastodon has been grown here and produced a very good crop. Both of these are yellow corn and make large ears. The same man who raises Mastodon corn is offering this season what is called the Drought Proof corn, which is also sold by Mr. Maule, and is claimed to withstand drought better than any other. We should think, on moist bottom land, at least, in Texas, it would be possible to grow 100 bushels of corn per acre, but such a crop is an exception in any soil or climate, and is far from being the rule on most fertile soils. If you will get to work, after getting a good variety, and select your seed in the field from individual stalks that come nearest to your ideal of what a corn should be for your purpose, you can gradually breed up a corn that will give as good a crop in your soil and climate as is possible to grow there. But you cannot, as we have said, expect a very large crop the first year from seed brought from a far different climate.

Charcoal.—J. Bawden, Kingston, Can.—"To gardeners and farmers needing humus I commend crushed charcoal, not too dear at 15 cents per bushel. Will be found excellent for grapes. Barnyard manure pugged in a pug mill, with clay, sand or peat, this shaped into bricks slightly calcined and finely crushed destroys vermin, preserves humus, keeps the salts near the surface, and raises the temperature of the soil. The crushed stuff will lead out the fertilizer as nothing else will." There is no humus-making material in charcoal; there is no fertilizing material in charcoal; there is some power for absorbing matters of plant food and by darkening the soil may make it warmer, but the man who buys charcoal to apply to his soil at 15 cents per bushel will be wasting money pretty fast. The grinding up of barnyard manure with clay or other materials and making it into bricks and then calcining it and crushing it will result in a large waste of its fertilizing value and also a waste of humus-making material. You will get far more humus in the soil by spreading it as soon as made and not waste time and manure in the grinding, burning, moulding and crushing. If you want a finely pulverized manure get the standard materials for such and use them, but do not expect to get something out of nothing.

Fertilizers.—J. P. Treece, Elizabeth, Ind.—"Five years ago I filled the fertilizer box on my grain drill with wheat bran and drilled about two bushels on a quarter of an acre. I then put in wheat and fertilizer and drilled it the same as the other ground. I could see no difference in the wheat during growth nor at harvest. I thought it would help the yield of wheat. Can you tell me where my mistake was? One season in planting potatoes I used wheat bran on one row, corn meal on another and the rest of the patch common fertilizer. At digging time they measured practically the same." We are not sure that we fully understand what you mean, or whether the wheat bran was drilled and then the same land sown with wheat and fertilizer, or whether the wheat was sown where the bran was and the fertilizer applied elsewhere. In applying wheat bran you added to the soil 6.8 pounds of nitrogen, 4.6 pounds of phosphoric acid and 2.56 pounds of potash per acre. These matters in the bran are all in the form of organic matter and had to go through the process of decay before their plant foods could become available to the crop. Nor do you give me any information in regard to the nature of the fertilizer used. In some States where the laws are not strict in regard to the inspection and analysis of fertilizers, there are a great many frauds in the fertilizers sold on the market, which are kept out in States where the law is strict and rigidly enforced, as in most of the Southern States. Hence we cannot say what was the reason for the results you got. If the fertilizer used was a good one for potatoes it should have beaten the application of bran and corn meal. Therefore the only explanation we can offer is that the fertilizer was of little value.

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Have You Uric Acid, Rheumatism or Bladder Trouble?

Pain or dull ache in the back is unmistakable evidence of kidney trouble. It is Nature's timely warning to show you that the tract of health is not clear.

If these danger signals are unheeded, more serious results are sure to follow; Bright's disease, which is the worst form of kidney trouble, may steal upon you.

The mild and the extraordinary effect of the world-famous kidney and bladder remedy, Dr. Kilmer's Swamp-Root, is soon realized. It stands the highest for its wonderful cures of the most distressing cases. A trial will convince anyone—and you may have a sample bottle free, by mail.

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Backache, Uric Acid and Urinary Trouble.

Among the many famous cures of Swamp-Root investigated by The Practical Farmer, the one we publish this week for the benefit of our readers, speaks in the highest terms of the wonderful curative properties of this great kidney remedy.

Dr. Kilmer & Co., Binghampton, N. Y.

GENTLEMEN:—When I wrote you last March for a sample bottle of Swamp-Root, my wife was a great sufferer from backache, rheumatism and urinary trouble, also excess of uric acid. After trying a sample bottle, she bought a large bottle here at the drug store. That did her so much good that she bought more. The effect of Swamp-Root was wonderful and almost immediate. She has felt no return of the old trouble since.

Oct. 1901. F. THOMAS,
427 Best St., Buffalo, N. Y.

Lame back is only one symptom of kidney trouble—one of many. Other symptoms showing that you need Swamp-Root are: obliged to pass water often during the day and to get up many times at night, inability to hold your urine, smarting or irritation in passing, brickdust or sediment in the urine, catarrh of the bladder, uric acid, constant headache, dizziness, sleeplessness, nervousness, irregular heart-beating, rheumatism, bloating, irritability, wornout feeling, lack of ambition, loss of flesh, sallow complexion.

If your water when allowed to remain undisturbed in a glass or bottle for twenty-four hours, forms a sediment or settling, or has a cloudy appearance, it is evidence that your kidneys and bladder need immediate attention.

In taking Swamp-Root you afford natural help to Nature, for Swamp-Root is the most perfect healer and gentle aid to the kidneys that is known to medical science.

Swamp-Root is the great discovery of Dr. Kilmer, the eminent kidney and bladder specialist. Hospitals use it with wonderful success in both slight and severe cases. Doctors recommend it to their patients and use it in their own families, because they recognize in Swamp-Root the greatest and most successful remedy.

To Prove What SWAMP-ROOT, the Great Kidney, Liver and Bladder Remedy,

Will do for YOU, Every Reader of The Practical Farmer May

Have a Sample Bottle Absolutely Free by Mail.

If you have the slightest symptoms of kidney or bladder trouble, or if there is a trace of it in your family history, send at once to Dr. Kilmer & Co., Binghamton, N. Y., who will gladly send you free by mail, immediately, without cost to you, a sample bottle of Swamp-Root and a book of wonderful Swamp-Root testimonials. Be sure to say that you read this generous offer in The Practical Farmer.

If you are already convinced that Swamp-Root is what you need, you can purchase the regular fifty-cent and one-dollar size bottles at the drug stores everywhere.

Don't make any mistake, but remember the name, Dr. Kilmer's Swamp-Root and the address, Binghamton, N. Y., on every bottle.

Registered P. China, Berkshires & C. Whites, 8 wks to 6 mo.; mated; not akin; service Boars; Bred Sows. Write for prices and description. We refund the money and have them returned if not satisfied.
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IT MAKES COWS BREED.

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SPRAY IT MEANS FULL FRUITING AND FINE FLOWERS.

About the only pumps worth using are those that mechanically mix the liquid and clean the strainer to prevent clogging and stopping spray. The **Empire King, Orchard Monarch and Garfield** are that kind. They are easiest and fastest in the field, they make the finest spray and they are the only sprayers with automatic agitators and strainer cleaning brushes. They do not burn and spoil the foliage by applying too much poison in spots, and every part gets its due proportion. To be sure of being right send for our book of instructions on spraying, formulas, etc. Mailed free for the asking.

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Four of the Famous

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workers that have made the **Iron Age** line of farm and garden implements known all over the continent. You can make more money this year than last if you will decide now to let them help you. Look at the good points of

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Figure out how much time, work, seed, fertilizer, &c., you might save with a very small outlay, by buying **Iron Age** implements. They have won their way by honest performance of every promise. Write for **free book.**

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Live Stock and Dairy.

A Great Combination.

While we keep this department up-to-date on stock and dairy matters, we know that many of our readers would like, in addition, an exclusively stock paper. Among them we regard The Breeder's Gazette, of Chicago, the leading one. We have made arrangements by which we can send the P. F. and The Breeder's Gazette both one year for only $1.90.

Stock Queries.

Hungarian, Oats and Clover. I am led to believe that Hungarian grass would be a good fodder crop for this section of Aroostook Co. I cut fifteen tons of late oats for fodder the past season, and I would like to know their feeding value as compared with Hungarian and clover hay. I am feeding my cows two feeds of oat fodder and one feed of clover hay, and will change one feed of the oat fodder for timothy hay about Feb. 1st. How much of the following meals should I feed for good results, and in what proportion: Wheat bran and middlings $28 per ton, corn meal $33, and cotton seed meal $35? E. G. TILLEY.
Ashland, Me.

(Reply by H. Stewart.)

The percentage of relative nutritive elements of these plants are as follows:

	Hungarian.	Oats.	Clover.
Water	65.6	81.0	78.0
Protein	5.9	2.3	3.7
Carbohydrates	15.0	8.8	8.6
Fats	1.5	0.5	0.8

These figures tell the whole story and the choice of either one or the other crop will be a matter of convenience only. It is impossible to state any exact ration of these feeds; it is entirely a matter of experiment as to the precise productive value of any feed for any special animal. The ordinary cow will return good profit from eight pounds of corn meal and four or five of the cotton seed meal daily, given in two feeds, one morning and one evening.

Fattening Steers. I am fattening 25 steers; I want to sell them early in spring. I have clover hay, corn, wheat and oats straw. How would you advise me to feed them? I am grinding corn and cob together. Is oil cake good for fattening? Some are tied in stall and some loose in a pen.
St. Catharines, Ont. READER.

(Reply by H. Stewart.)

There is but little choice between the feeding of cattle in sheltered yards, or in stalls in a comfortable stable. A good ration for cattle of one thousand pounds live weight, and otherwise in proportion, would be ten pounds of clover hay, five pounds of either linseed or cotton seed oil meal, with five pounds of clear corn meal. There is no economy in feeding ear corn ground. The cob has no more value than sawdust. The feed mentioned may be fed half morning and evening, with straw during the intervals.

Teeswater Cattle. — The Teeswater breed was the old Durham, before this name was given to it, a century or so ago. The name Durham was changed to the Shorthorn when the most noted of the early breeders, Mr. Bates, of England, originated the present strain of cattle going by this name. No breed called Lavender Duck ever got into history; there is no mention of any such breed in any published records.

Feeding Separated Milk.—Separated milk is somewhat less nutritious than common skimmed milk, as it has next to no fat left in it. But yet it is possible to rear good calves, which will weigh three hundred pounds at three months of age on such milk as is described, by adding meal to the ration. It is best to feed the milk fresh from the cow for ten days or so, to get a good start; after this, by gradually changing the feed, the calves may be made to weigh three hundred pounds at three months, and three times as much, or more, when a year old. Calves so fed will need a gradually increasing ration of grain food, such as mentioned, as will be eaten clean without waste and with good appetite. Full directions for such feeding will be given in an article already prepared, in a short time. Wheat middlings is not a good food for this purpose, as it is apt to be indigestible. A mixture of oat and corn chop, as mentioned, is the best food to go with the milk, two pounds a day may be used with two to four ounces of linseed oil meal, as soon as the calf is able to digest it. HENRY STEWART.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 1016 Davis St., Evanston, Ill., who has editorial charge of this department. All inquiries requiring answer by mail must be accompanied by a fee of $1 each.

Ascites.—My 6-year-old Jersey cow took sick Saturday, Dec. 13th; completely failed in her milk the following day. Seemed stupid first few days; wouldn't eat, but drank a good deal of water. Gave her the usual dose for founder; no relief whatever; she was not swollen as badly as when foundered previous to this; on the following 8 days she would not eat, but drank about one-third usual amount of water. She would walk around when driven; was apparently not suffering, but was stupid; on the 9th day she breathed a little hard, or rather, had a slight cough with each breath. I tried to bleed her the evening of the 9th day, but her blood seemed cold and black; bled very little. She died that night. On examining her found at least 15 gallons of bloody water outside of entrails. All of the fat was badly decomposed. O. L. MIMS.
Swannanoa, N. C.

The cow apparently died of ascites (abdominal dropsy), which is usually associated with either kidney, heart or liver disease, or all of them combined. We do not believe that treatment would have saved the cow, neither is it possible to say how the trouble might have been prevented. Such cases are rather uncommon, and it is unlikely that you will have subsequent cases of the same sort, unless you happen to graze cattle upon wild, swampy, or timber lands, where acrid plants are common in the grass. In such pastures it is common for cattle to suffer from red water, and that is somewhat akin to the trouble from which your cow died.

Tardy Wound.—I would like to have your advice as to my mare, being cut by barbed wire. It was done some three or four months ago and was not attended to right away, as it was done while in the pasture. It was a week before she was gotten up, then we used lime and blue stone (powder). The cut is just above the knee and is very much swollen. Now the trouble seems to be she bites the sore and makes holes in it, and is constantly bleeding, and of late, for two or three weeks, we put on some tar, thinking she would not bite the tar, but still she will work at it. A SUBSCRIBER.
Scott Valley.

In all such cases the first thing to do is to get the animal into a clean stall in a well ventilated stable and there tie high so that the head cannot possibly be lowered to allow the animal to bite the sore. Tied in this manner the horse will soon learn to sleep on its feet and it is really no cruelty, considering the necessity of curing the wound. Do this with your mare, then cleanse the wound thoroughly with soap and warm water to get rid of the tar and filth. When the wound is quite clean it may be found, by probing, that it contains some foreign body, such as a sliver, or diseased flesh which can be detected by the color. Such matters must be removed and then the wound will have a chance to heal. After the above treatment better apply a hot flax seed meal poultice in which mix, to each pint of water used in making it, two drachms of Chloro-Naptholeum. Continue the poulticing until discharge ceases then wet the wound frequently with the following lotion, which must be well shaken before application: Sugar of lead, one ounce; sulphate of zinc, six drachms; water, one pint. When the wound is about healed should the leg remain swollen about the wound clip hair from part and blister with cerate of cantharides. During treatment do not feed much grain. Rations would better consist of bran mashes, carrots, a very little grain and good hay and fodder. Bowels to be kept open.

Foul in Foot.—I have never seen any cure for hoof evil in cattle. That is what it is said to be. Their feet get sore, and they get lame. They eat well but stay poor.
Cadmus, Mo. SILVIA HODGE.

Foul in the foot is the most common foot affection of cattle, and consists of an irritative inflammation and ulceration between the digits (toes), usually caused by the animal standing in a filthy, wet stall or yard, or on soft, marshy pastures, or standing in stagnant ponds. There is acute lameness present and the foot is swollen around the top of the hoof and there is a strong fetid smell, with ulcerated sores of the soft tissues between the toes. The worst cases are usually those that have been aggravated by abusive treatment, such as dragging a rough rope between the toes. Also by the free use of terchloride (butyr) of antimony. Such brutal measures are unnecessary and cruel. Place the animal in a clean box stall. Cleanse the foot well with a solution of Chloro-Naptholeum and cold water. Then apply a poultice of bran made with cold water containing some of the Chloro. In bad cases give a pound dose of epsom salts in two quarts of warm water, and follow with light, soft food. Where there are severe ulcerated conditions present cleanse as before and dress the ulcers with a mixture of equal parts of finely powdered sulphate of copper, charcoal, tannic acid and white sugar, and cover with oakum saturated in pine tar, passed between the digits and held in place by means of a narrow bandage passed between the toes and then around the leg above foot. This dressing should be renewed daily. See that cattle are kept out of places where the disease is caused.

A Bad Habit.—We have a horse with the habit of resting one hind foot upon the other, keeping it scarred and sensitive when being shod. We purchased a roll, but she turns it up against the leg so it is useless. I hope you can give a remedy. 2. Some of our hens have what looks like clusters of tiny eggs on the base of the feathers about the stern. Are they depluming mites, and what is the remedy? F. C. CURTIS.
Sandy Creek, Me.

A horse cannot be broken from this habit, but is usually less likely to practice it if placed in a box stall. We find that it is most usually acquired where the horse has to stand all day in a stall having a steeply inclined floor, which tires the legs. Floor should be level and absorbents, such as gypsum (land plaster), used to lick up the fluid excreta. A large disk of sole leather sometimes acts better than a roll, and if neither device proves successful, then have a boot made for foot with leather shield in front. 2. We could not be sure from your description as to the nature of the eggs referred to, but would advise you to rub ointment of two drachms of flowers of sulphur and one drachm of Chloro-Naptholeum in an ounce of lanolin. Pyrethrum powder is also useful, and care should be taken to have the chicken house dry and well ventilated, and to use vegetables as part of the rations.

Heaves. — We have a good bay gelding about 11 or 12 years old, which I think has the heaves. He has the symptoms of heaves which you gave in a back number of the P. F., namely, hard breathing, coughing, passing wind from rectum while coughing and bellows-like action of abdomen, except that he also has a whitish discharge from the nostrils. He seems to cough till the discharge comes and then breathes a little easier. We feed three quarts of oats and hay morning and night, and 8 quarts of carrots and rutabagas mixed, with a little hay, at noon. All hay and oats are wetted with pure water. He is not working, and I drive him on a stone boat to give him exercise when there is snow.
Pittsford, N. Y. C. HEYDWEILLER, JR.

The horse is evidently afflicted with heaves, as you suppose, and while he cannot be perfectly cured he may be helped by proper feeding and care. Substitute bright oat straw for hay and give it early in the morning and late at night, but not during the day. Give drinking water before, but not after, feeding. Let him have a lump of rock salt to lick at will. Exercise him every day. Mix half an ounce of Fowler's solution of arsenic in his grain feed twice daily, or, better, give it with small syringe, in mouth. Lime water is good for such cases and need not be made daily. Simply slack a lump of quicklime in a keg of water and allow lime to settle. Then strain through cheesecloth and dilute with as much water as at first. Allow this to stand in a covered vessel and use as required. In the care of a "heavey" horse it is of great importance not to work or exercise him when he has just eaten a meal, as the distended stomach presses upon the diaphragm and makes breathing all the more difficult. Carrots are suitable food and should be continued, the object being to keep the bowels freely open at all times. If there is any tendency to constipation feed a warm bran mash and in it mix half a pint of raw linseed oil. Such a mash once, or even twice a week, generally benefits in such cases, even where there is no costiveness. You have given a very intelligent description of the case for a young boy, and it shows that you have studied what you have seen in this and other departments of the P. F. Keep on and you will be a good farmer or veterinarian some day.

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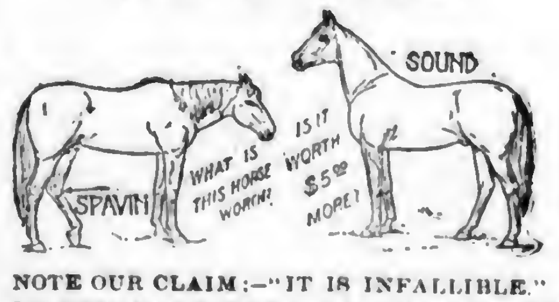
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THE GARDEN.

This department is under the editorial charge of Dr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

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Talks on Timely Topics.

Disinfected Seed.—A reader and occasional contributor writes me as follows: "My experience in seed buying leads me to suspect that cabbage rot, bean rot, bean blight, melon and other vine diseases, tomato rot, etc., sometimes come with the seed. I got disease, new to my grounds, on seed in this way, I believe. Why not soak seed in Bordeaux mixture or formaldehyde? Did you ever try this, or hear of its being tried? I believe the seed should be treated." In the very thorough investigation of the onion smut, made by the Connecticut State Agricultural Experiment Station some years ago, it was found that the smut is sometimes carried to new fields by seed grown on smut-infested lands, the spores having found lodgment on the outside of the seed from dirt or other matter with which the seed, in the processes of harvesting and cleaning had come in contact, and the Station suggested, as a precautionary measure, that seed grown on smut-suspected soil, be washed with a disinfectant. It has long been my conviction, that celery seed sometimes carries the spores of blights or rots, etc., and I have, before this, and in these very same columns, suggested a disinfecting treatment for these and similar seeds. Of course, the fungus spores cannot possibly be on the inside of the seed; they are, if anywhere, lodged on the more or less corrugated outside surface, and there may easily be reached by washing, as, for instance, in a 1 per cent. solution of corrosive sublimate, or, better, of a one per cent. solution of copper sulphate, or even by a quick wash in hot water. Possibly such treatment may be a wise precaution with the seeds of any of our common garden vegetables that are subject to the attacks of fungous diseases.

Comforts of Rural Life.—My plea for a good home garden has always been based more particularly on the observation that the garden adds so largely to the comforts and enjoyments of rural life, in a general way, than on the mere fact that the garden furnishes table and kitchen supplies. How comfortable a rural home can be made even in a semi-wilderness, appears graphically from the following letter just received from Theo. Cranz, of Lincoln Co., Oregon. He says: "I have been desirous of having a number of photos taken of my place (25 miles from Waldport, a small town of 500 inhabitants, and 58 miles from Corvallis, having about 4,000 inhabitants). I intended the pictures for my mother, now in Germany, who had visited our ranch about nine years ago in its undeveloped state; to show her what willing hands and a love for nature and out-door life could accomplish in a virgin forest. I am sorry she cannot see the place now, for I am proud of it. A fair house, better inside than outside, with nice flower garden, though small, fine orchard behind house, good, substantial barns, tool house (where I keep wagon, mower, self-dump hay rake, plows, harrow, cultivator, spray pump and other small tools), fine potato cellar, where we also keep many jars of fruits and preserves, pickles, sour krout, pickled sliced beans, etc., and also a keg of wine from California, for my friends. I am taking out stumps as fast as I can; have a fair start in stock, good work team, 12 head of cattle, 30 head of good sheep, chickens, turkeys and twenty stands of bees! These are our possessions. So you see, though we live far from civilization, we enjoy life and try to make our place as homelike as possible. Our summer house is just a little affair of my own, like the rest of my place, built out of lath and covered with grapes, hops and honeysuckle."

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Current Comments.

Soy Bean Nomenclature. — Edw. E. Evans, West Branch, Mich.— "E. F. Diehl, Leesburg, Ind., writes me that a Washington correspondent of the P. F. (in issue of Dec. 6th) refers to Ito San soy as a brown-seeded variety. This variety is a yellow bean with small brown spots on eye. There are two other soys grown in Northern States, Early (or Dwarf) Yellow and Medium Early Yellow. There are three browns, *i. e.*, Dwarf, Evans' Ogema (No. 9) and Early Brown The latter is really a medium early, coming in after Medium Early Black. Soy nomenclature is sadly mixed, and seedsmen have not been helping the matter in the least." Ito San is the variety which has been largely advertised as "American Coffee Bean." It is a variety that can well be recommended for trial at the North, and my best sort at the present time.

◆

Notes from a Carolina Garden.

We have been putting a fence of poultry wire netting around our garden, not only to better keep the fowls out, but as making, with a strand of barbed wire at top, a fence that trespassers find hard to climb over. Then, too, it is a cheap fence and furnishes a good place for climbing plants of various kinds. Next to the road we plant Crimson Rambler roses, which will make of the fence an impenetrable hedge. In other places we will plant the climbing lima beans and get some profit out of an otherwise useless space.

We have for years used the chicken wire of various widths for supporting such things as need support. For the dwarf peas we have wire about 18 inches wide. They might do without support, but are far neater with some. Then for the later and taller peas we use wider wire. We have this wire that has been used in the garden, and still good, so many years that we do not remember when it was bought. Some years ago we compared the cost of the wire with brush cut and hauled by our own men and teams, and found that even for one season the wire was the cheaper. We remember a number of years ago, when we first advised the use of the wire netting, a writer in one of the papers ridiculed the idea of farmers going to the expense of getting wire netting for peas. But now we find that the practice is coming into general use. It is not only cheaper, but better and neater than the unsightly pea brush, and we advise everyone who loves a garden to try to improve its neatness.

Our Irish potatoes planted in November, are still in good shape and will probably come up at the right time, and that will be one piece of spring work gotten out of the way. The Chinese Winter radishes are still thriving, but are getting rather too large and pithy, but the young onions are fine, and the spinach is green as a leek, and both are on the table daily. Hanson lettuce, well mulched between the rows with leaves, is coming on all right, though the edges of the leaves are scorched. With the advancing sunshine it ought to head well by the first of March, and will be almost as early as the lettuce replanted in the frames where the Big Boston rotted. Seed of early radishes, beets and succession cabbages will now go into the frames, and with February the garden time of the South will be in full force.

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Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Persimmons vs. Peaches.

An esteemed correspondent, H. A. Schultz, wrote me recently of a party in this State, Pennsylvania, who was on the high-road to fame and wealth, having discovered and planted an orchard of a new fruit "equal to peaches," a tree which would thrive where the peach would not Correspondence with this friend brought out the fact that this new fruit was the persimmon. It is to be hoped that none of the P. F. readers have been duped into setting out the persimmon with the idea of using it as a market fruit. The tree abounds through the South and Southwest. It grows wild sparingly as far as Philadelphia, and probably along the coast still further North. It is of no use as a marketable fruit. When dead ripe they are fairly good eating, one or two or more; and the colored folks of the South use them, and maybe others as well They can be had in the Philadelphia market at any time in season, but no one uses more than a pint or so, to take home more as a curiosity than as something that will be desired. If our Pennsylvania friend has set out an orchard of them he had better root them out, and set out some timber trees instead, if no other fruit trees will thrive there. Another matter to consider is that all persimmons do not bear perfect flowers, consequently they do not fruit. Should a dozen fruit trees be set out, the risk is taken as to what they be, bearing or non-bearing trees. The Japanese persimmon has better fruit than our native one, but it is even less hardy than ours. The Pennsylvanian who says in the persimmon he has something "equal to peaches" must try again.

◆

Horticultural Queries.

Large Chestnuts.—If the hybrid chestnuts, Paragon and Coe's, are as good as some men recommend them to be I would give them a trial here in Northern Ohio. Are they hardy in this latitude? Can you recommend them as being in every way desirable?
Lenox, O. LEWIS HYDE.

The Paragon chestnut is not a hybrid, but a variety only of the European or Italian chestnut. It is rather better than the common one, having a larger nut. Coe's I do not know. The Paragon is quite hardy in this part of Pennsylvania. I presume it is somewhat colder in Lenox than it is in Philadelphia. The Japanese chestnut has a very large nut and it is hardier than the European and its varieties. Try it, if you want a large nut.

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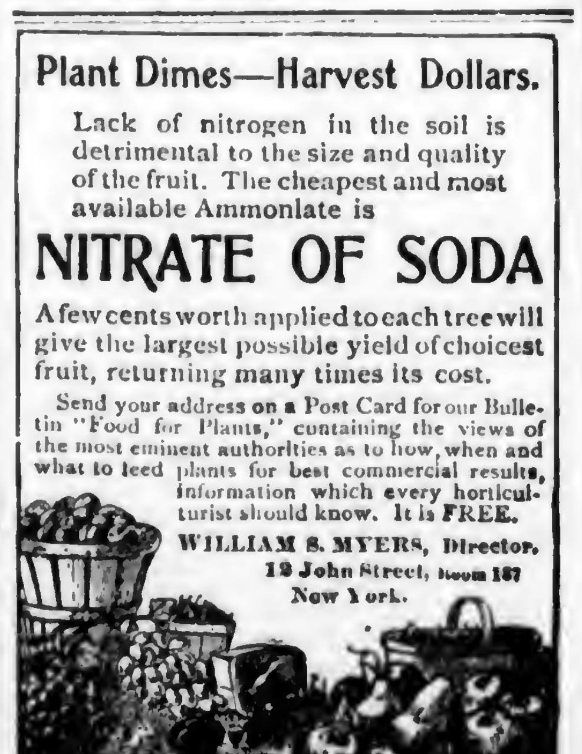

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POULTRY.

This department is under the editorial charge of A. F. Hunter. All letters, inquiries and requests should be addressed to him at the Practical Farmer office, P. O. Box 1317, Philadelphia.

A Few Hints on Buying Incubators.

Many P. F. readers are at this time intending to buy an incubator and brooders for their next season's work, and some suggestions will be timely. Do not put off buying too long; do not wait until you need to begin hatching. An incubator will cost no more bought now than at the time you want to begin to use it, and there are very manifest advantages in getting it set up and becoming to a certain extent familiar with it. We knew a man who intended to buy an incubator, but put it off and put it off, for one reason or another, until it was time to begin hatching; indeed until he had actually begun saving eggs for hatching. He then sent the money for the incubator and asked the manufacturers to "please hurry it along." They shipped it at once, and after waiting some ten days he wrote to know why the incubator had not arrived. As it was on the way all the manufacturers could do was to start a "tracer" after it, and the incubator and tracer reached the man's railway station practically together, the incubator having been thirteen days on the road. While such a delay may be unusual. still, there are possible delays, owing to the transfer of the machine from one railroad to another, and that means unloading it on one platform, trundling it to another platform and loading it on another car, etc., etc., etc.; anyone who is acquainted with freight shipments knows the vexatious delays that are possible. Therefore we say buy your machines in good time, so as to avoid the possible misfortune of delay in transportation. Another point is that you get an opportunity to get the machine set up at a time when you have plenty of leisure to do it right, and get the conditions right; you also can take time to get acquainted with the machine so as to run it to the best advantage and greater convenience to yourself. That point of getting acquainted with the machine is a most important one. We have a letter from a lady in Montana who says she bought an incubator last spring, got it home to her house about noon, went to work uncrating it and setting it up as soon as she had eaten her dinner, and at 5 o'clock in the afternoon put the eggs in it! A little consideration of the risks those eggs were subjected to will illustrate the point. She had never seen an incubator before and had no idea of running one excepting what she got in the directions sent with the incubator. As fortune favored her she got a good hatch, but the chances were certainly very much against it. It is foolish to take chances when we can avoid them by taking time by the forelock. It is good, sound advice to take three or four days in which to gradually warm up the machine to the desired temperature, see that the regulation is properly adjusted to the desired point, become familiar with the individuality of the lamp so that the flame can be set at pretty nearly the same point after each filling and trimming—in fact, become familiar with the methods of operating the incubator. Do not make the mistake that some beginners do of buying a cheap incubator because you risk less in case you do not succeed with it. We have actually had that suggestion made to us, indeed it was repeated in a letter which came a few days ago, in which the writer asked advice about three different makes of incubators and said he preferred the ————, because it was cheapest, and if he did not succeed with it his loss would be smaller. Such reasoning merits the epithet of "silly." We have no right to say that a cheap incubator is not a good incubator; nor to say the reverse, that the highest priced incubator is the best incubator. It is well known that a cheap pair of shoes cannot be made of so good leather nor so well made as a pair of shoes costing, say, twice as much; no one would expect to get as good a pair of shoes for $1.50 as he would get for $3; in the very nature of things it is impossible that he should As this principle runs throughout all lines of business it is perfectly legitimate advice to say that the probability is against a cheaper incubator being so good an incubator. Be sure you buy a good one, because the incubator is the chief-corner-stone of your success in poultry work. Chickens that are poorly hatched start in life with a serious handicap, and in the very nature of things cannot be so thrifty, cannot grow so well, and have not so much strength and vigor as chicks that are "well hatched." Consider well the hatching capacity you require for your business, and buy a good incubator of the size that will do the work you want to have done. The time has gone when there is any question about the incubator doing the work an incubator is wanted to do. It has been abundantly proved that a good, dependable incubator will not only hatch chickens, but will hatch those that are strong and thrifty; the incubator will do better work than will the erratic sitting hens This point of buying a good incubator is suggested by the experience of a lady who writes to ask for some information and mentions incidentally that she bought an incubator last spring and sold the chicks of the first hatch for enough to pay for the machine and had some $5 over; as she had never used an incubator before, such an experience is abundant proof of the good work incubators will do. A not uncommon fault of inexperienced incubator operators is to neglect testing the eggs. This is a mistake for several reasons. First, there is always a proportion of eggs that are absolutely clear, running usually from 10 to 25 or 30 per cent., and those clear eggs are perfectly good for cooking. They are not quite fresh, of course, since the six or seven days they have been in the machine have "staled" them to a certain extent, but no more than if they had laid on the counter of a country store for a few weeks—as is very frequently the case. Large operators usually sell those infertile eggs to bakers and confectioners, and they are used up in making cakes, pies, custards, etc.

A decided advantage in removing from the trays those clear eggs is that there is more room for the fertile eggs in the trays, and they can be turned and handled more easily; even if no second test is made a first test, to take out the clear eggs, certainly should be made. A second test, about the 16th or 17th day, to remove the germs that have died since the first test, is a help to a good hatch. Those dead eggs usually throw off slight odors or deleterious matter, hence a good hatch is promoted by getting them out of the machine. Another argument for testing the eggs is that it increases one's knowledge of embryonic life and development, and enhances the interest of artificial incubation. A good tester is sent out with every incubator sold and we strongly urge the buyers to start right—and learning to test eggs is an important part of that right start. Be certain that there is an abundant supply of air in the incubator room at all times. A serious mistake of beginners is being afraid that a little fresh air will jeopardize the hatch. It is important to remember that if you have 150 living germs in an incubator all of those 150 living organisms are consuming oxygen every day and every minute of the day, hence it is important that they be abundantly supplied with that life-giving element. If the incubator is in a moderately warm place, say about 60 degrees, more air can be admitted to the machine and the eggs can be cooled and aired a longer time than if the machine is in a considerably colder place. This means that cooling and airing the eggs should be much less in cold, winter weather than in mild, spring weather; then, too, you can do decidedly more cooling and airing the last third of the hatch than earlier, and the living embryos will be better for it. The practice of operators varies considerably, some cooling and airing the eggs a great deal after the first week, and there are some who cool and air from the very start almost. Generally speaking, however, if the incubator is in a cool place it will be found that the eggs get sufficiently cooled and aired at the daily turning, then a few minutes a day the second week, and the last week (up to the time of pipping) ten to fifteen minutes a day is none too much. Indeed, if the animal heat in the eggs is strong and the temperature of the incubator room is 60 degrees or above, quite a long airing daily will be beneficial.

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PROF. W. F. MASSEY, Editor.

Philadelphia, February 7, 1903

Planting Corn.

A writer in the Iowa Homestead says that in North Carolina corn is planted in rows six feet apart and one foot in the rows, and that a writer says 254 bushels per acre have been grown in that way. The Iowa man is misinformed The famous 254 bushel crop grown in South Carolina years ago, was, we have understood, really two crops, the first crop being planted early and six feet apart between the rows, and when this was laid by, another planting was made midway between the rows The early crop was cut out when glazed and the second crop cultivated and matured. The common method in the South is to plant the tall growing corn six feet apart each way, and one stalk in a hill. Corn planted in this way and making but one ear per stalk cannot make a big crop even on strong land. The great need of the Southern corn grower is a proper breeding of corn to a more dwarf stature, so that it can be planted closely. This has been done at the North Carolina College of Agriculture, and corn planted in rows three feet eight inches apart, and rather thickly in the rows, made 88 bushels per acre, on upland that a few years previous would not have made over ten bushels with the ordinary planting and tall corn with single ears. Fully as much improvement can be made in other sections by a study of the whole plant as indicated above.

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Seed Breeding.

A correspondent tells how he selects seed corn. His plan is the old story of picking out the best formed ears after the crop is gathered. That method of selection will never breed up an improved race of any plant The fine ear may have been produced near a barren stalk, and may have been fertilized by the pollen from that stalk, and will inherit a tendency to make more barren stalks. After a crop of corn is gathered, in fact, after it is matured in the field, is too late to begin the proper selection of seed. The men who are engaged in the improvement of varieties of seed and who originate the strains of improved vegetables and field crops do not wait till the crop is harvested to make their selections. They study the plants during the whole season, and weed out every inferior plant that may affect the final result unfavorably. They have well formed ideals of what they want to produce and they work steadily in their selection towards that ideal plant. They take the whole plant into consideration, and not one single feature, and in this way, step by step they bring out excellences and banish defects till a new strain is formed and placed on the market. Then someone gets the improved strain and goes to work to select the seed in the old way. He thinks that he still has the variety he bought originally, whether of corn, cotton or vegetables, but by this method of saving seed he soon has an entirely different and generally an inferior type. The ideal plant of the original improver has been lost sight of, and the way in which he brought about the cropping capacity of the plant has not been continued The final result, the grain or the fruit is all that is looked after, and the plant gradually returns to the original condition from which the improver bred it up Then the farmer or gardener complains that varieties run out. They certainly do run into something else than the original type to which they have been bred when different methods of seed saving are used. It is all right to get the best type of ear in our corn that we can, provided we get along with it the character of plant we want. If earliness of corn is desired it is certainly more likely to be with the most perfectly formed and ripened ears, but these ears should be selected in the field as soon as they show signs of maturity, to be sure that they are the earliest. They should be borne on plants that are of the proper stature for the section, and should be matured remote from any such disturbing influences as barren male stalks and inferior plants around them. The same rule will apply to our garden vegetables. A friend once told me that he had for years saved his own garden peas for seed, and he had a very fine variety. He was too far South to have much success in this line, we knew, but we had curiosity enough to ask for a few of his peas to try. We planted a row of them alongside the peas from the best seedsmen. They grew off finely, and we put some good tall brush to them. They went to the top of six-foot brush and still had not bloomed, while the properly saved seed alongside had made plenty of pods. They had trailed down half way before blooming, and finally did make a tolerable crop But his Early May peas, as he called them, had reverted to late June, because he had merely saved the last of the peas after eating the early ones, and the plants had grown taller and taller annually, till they outstripped in height any peas we ever saw. The careful seedsman rogues out every pea in a row that tends to get out of the regular type of the variety. He watches for variations that may lead to improvement, and separates these from the general stock for further study. In this way the old Daniel O'Rourke pea has given us a host of extra earlies, selected by growers for special features. The same care is bestowed on other garden vegetables, and there are very few that the truck grower or the private gardener can afford to produce for himself as well as the professional seed grower can for him. The private gardener wants to eat the best, and the trucker wants to sell the best while the price is good, and it would cost them both too much to undertake to save the best seed. Hence we find that in this, as in other lines of effort the division of labor tends to the benefit of all. The man who undertakes seed improvement must give that his attention, and let the crop value in the market have no place in his calculations. But with our field seeds it is nevertheless true that the farmer can by care keep a variety more true to the best type, as he has the whole crop from which to select the seed.

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Maintenance of Fertility.

The greatest problem in our agriculture is not how to get big crops merely, but how to maintain and increase the crop-producing capacity of our soils in the most economical manner. Anyone can make big crops if he does not stop to count the cost, but the man whose living must come from his farming is interested in knowing how he can develop the capacity of his land and increase its productiveness at the least cost. It is the difference in the cost and the selling price of the crops to which he must look for his living, and the thoughtful farmer is ever trying to make this difference as large as possible. The man who buys fertilizers for every crop simply because that is the practice of his section, and who looks merely to the returns from the crop to pay for the fertilizers, without any notion as to whether he has used the article best suited to his soil and crop, generally fails to get out of the ruts. Now is the time for study in this regard. Are you going to buy a little fertilizer this spring to dribble in the corn rows or under the cotton, and take the risks of the season as to whether its cost will be returned or not, or are you going to get out of these old ruts and work towards the betterment of your soil, so that finally you may not be so dependent on the fertilizer factory for your sale crops One can find out, as the Stations are doing, by actual experiment, what the particular needs of the soil in plant food are, and what it may be necessary to purchase in the shape of commercial fertilizers. And in no other way can we determine these facts, for results in one section and in one soil cannot be taken, as a rule, in the treatment of other soils and under other conditions. Some recent work at the Massachusetts Experiment Station shows that the soil there is badly in need of all the elements of a complete fertilizer, and is especially deficient in potash. The plats to which no fertilizers were applied for corn averaged less than ten bushels per acre, and the phosphoric acid alone in the form of dissolved bone black made a very small increase in the crop, while an application of muriate of potash alone increased the crop more than fourfold. The greatest crop was made where five cords of stable manure were applied per acre, and yet nitrogen, which is assumed to be the leading element in stable manure, when applied in the form of nitrate of soda with bone black made a very small increase in the crop. But when a mixture of nitrate of soda, bone black and muriate of potash, containing about 12 per cent. of potash in the mixture, was used the crop went up next to the stable manure. Now, it would seem that for corn in the New England soil the great needs are for nitrogen and potash. And yet a readily soluble form of nitrogen had little effect without the potash. It would seem that the effect of the stable manure was due rather to the humus-making character of the manure, causing the soil to retain moisture better and thus to use the plant food applied. Now, when one has thus found that his soil needs a complete fertilizer, and yet is so deficient in humus that nitrate of soda does not have the effect desired, it would seem that the true way to remedy this is to take measures for getting the nitrogen through the leguminous crops. A growth of legumes ready spread over the land is a far cheaper humus-making material than stable manure expensively hauled there. While in all parts of the North the Southern cow pea cannot be used to advantage as a hay crop, there is nothing that could be so quickly grown that will have a greater effect in maintaining the humus content in the soil and aiding the fixation of nitrogen. Getting the nitrogen and the humus cheaply, one can afford to be liberal in the application of phosphates and potash, and as these are especially adapted to the increase in the growth of the pea crop we can, through a liberal use of them, get a growth on the land that will make the following corn crop equal, if not greater than that produced by the stable manure, since the mineral elements will be retained by the soil, nothing lost and a great deal added, and a cheaper coat of manure put on the land than could be hauled there. Give the needed chemicals and the legumes will do the rest, and the crops will be grown more cheaply, while the productive power of the soil will be enhanced.

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The Cream of the Bulletins.

University of Illinois Agricultural Experiment Station, Urbana, Ill. Bulletin No. 81. Forcing Tomatoes. By Alvin C. Beal.

A great deal of interest has of late years been taken in the winter forcing of tomatoes under glass by the Experiment Stations, and various systems have been used and recommended. Most of the experiments have been made with plants in pots or large boxes. The writer of this has tried these, and some time ago came to the conclusion that a bed of rich soil on the floor of the house will give better success than any other method, as the uniformity of moisture conditions can be better preserved in such a bed than in one on an elevated bench or in box or boxes. The greatest success we have had was in a permanent bed where the plants flourished and were fruitful till tomatoes were outside. Few realize what a perennial plant the tomato is. We once had a plant in a cool greenhouse for four years. It was pruned every fall and broke out regularly and was fruitful. How long it could have been grown we do not know, for this plant was killed by the neglect of the fireman, who let the house freeze up. There is a rapidly growing demand, as this bulletin states, in all the cities for forced vegetables. With the tomato, the appearance of the Florida crop that now comes in after Christmas, does not matter much, except that the prices for the forced fruit are somewhat lower than formerly, for the quality of the hothouse tomato is so much superior to that of the Florida product that discriminating buyers will willingly pay a higher price for them. We have sold hothouse tomatoes to grocers at 25 cents a pound when the Florida tomatoes were selling at one-fourth or less that price, and to the extent of the demand they are profitable at this price. The house at the Illinois Station is an even-span house 20x35 feet in size, and the ridge is 13 feet above the walks. The plants were set on the benches in soil one-half garden loam and one-half rich compost of rotted manure, straw and corn stalks. The house is heated by steam flowing overhead in a 3-inch pipe, and under the benches in coils of five pipes. Combination and Yellow Prince varieties were used and sown October 23rd; rather late we would say for early forcing, as we sow about September 1st. To the rich soil used two applications of wood ashes were made after the plants were in full bearing, and no other fertilizer was given. The soil was six inches deep, and the centre bench had four rows twenty inches apart. The side benches had two rows. In our experience we found that it did not pay to plant the side benches, but to use them for low-growing plants. The temperature was kept as near as possible at 70 degrees, at night. (We have found 60 better.) Plants were trained to single stems supported by binder twine and tied at intervals of a foot with raffia to the twine. A warm and dry atmosphere is needed. Otherwise the pollen is not shed freely. In bright weather, when pollen can be had they were pollenated every other day. A teaspoon is used to collect the pollen by jarring the blooms. (We prefer a camel hair brush.) If not well pollenized the fruit will be small and irregular. Few insects annoyed the plants, and the only one hard to subdue was the white fly, which appeared in May. The fruit was gathered till last of June and the total weight was 587 pounds 15 ounces. In 1902 a variety test was made and Combination, Lorrilard, Best of All and Eclipse were used. Eclipse gave the first ripe fruit, December 28th. The plants bore till April 9th, when they were removed to make room for other things. The yield was four and four-fifths pounds per plant. The largest yield was from Combination and next by Eclipse. Best of All was the earliest during the dull days of December, but when the days became brighter the Eclipse forged ahead. A good demand was found for the tomatoes at 30 cents a pound in winter, and 20 cents after March 1st. To have fruit by Thanksgiving the seed must be sown in July and set in the house by the first of October. Plants trained to single stems gave a much larger yield per square foot of room than those trained to three stems. Eclipse gave the largest yield of the smoothest and most solid fruits. The average yield, including both winter and spring crops was from two and a half to two pounds per square foot of space, or from seven to nearly nine pounds per stem,

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Those Clubs of Six.

They are still coming in by every mail. It encourages us to ask that every subscriber of the P. F. who has not yet made up one of these clubs, to do so now. As a result of what our friends have done, the P. F. is now going into thousands of homes where it has heretofore been a stranger, and the gospel of good farming as preached through its columns, will have a wider hearing than ever before. Keep on with the good work until at least a larger percentage of the several million farmers in the United States are being benefited by its weekly visits to their homes.

Our Seed Coupons.

In sending their renewal subscriptions our friends should not overlook our Seed Coupon offer. It will be found on page 86 of this number. You get a dollar's worth of seeds, bulbs or plants of your own selection and the P. F. for $1.25, only 25 cents more than the subscription price of the P. F.; or, to put it another way, paying the regular price for the seeds you purchase and getting the P. F. for a year for a quarter. The due bill can be counted as a dollar on any purchase from the seedsman on which it is drawn. All the subscribers of the P. F. buy seeds at this time of the year, and thousands of them have used the coupons in the last few years with entire satisfaction.

COMMERCIAL

Philadelphia, Jan. 31, 1903.

WHEAT.—	
No. 2, red	80 @ 80½
No. 2, Penna. and Del.	81 @ 81½
CORN.—	
No. 2, new	55 @ 55½
OATS.—	
No. 2, white clipped	43
BUTTER.—	
Best prints	27 @ 28
Firsts, creamery	26
Seconds, creamery	24 @ 25
Ladle packed	17 @ 20
CHEESE.—	
Full cream, choice, small	14 @ 14¼
Full cream, fair to good	13½ @ 13¾
Part skims	10 @ 12
LIVE POULTRY.—	
Fowls, per lb.	12 @ 13
Spring chickens, per lb.	12 @ 13
Ducks, per lb.	14 @ 15
Geese, per lb.	12 @ 14
Turkeys, per lb.	14 @ 15
DRESSED POULTRY.—	
Fowls, per lb.	12 @ 14
Chickens, per lb.	12 @ 15
Turkeys, per lb.	16 @ 20
Ducks, per lb.	15 @ 18
Geese	11 @ 13
EGGS.—	
Nearby fresh	26
Western, choice	25
FRESH FRUITS.—	
Apples, per bbl.	1.50 @ 4.00
Cranberries, Cape Cod, bbl.	11.00 @ 12.00
Cranberries, Jersey, crate	3.00 @ 3.50
Oranges, Fla., per box	2.75 @ 3.75
Grape fruit, Fla., per box	2.00 @ 5.00
VEGETABLES.—	
White potatoes, Pa., per bu.	68 @ 70
White potatoes, West., bu.	60 @ 65
Sweet potatoes, Jer., bas.	60 @ 65
Cabbage, per ton	5.00 @ 8.00
Onions, per bbl.	1.75 @ 2.00
BEANS AND PEAS.—	
Marrows, H. P., per bu.	1.75 @ 2.70
Pea beans, H. P.	2.35
Red kidneys	3.00
Green peas, per bu.	1.65 @ 1.70
Scotch Peas, per bu.	1.70 @ 1.75
HAY AND STRAW.—	
Timothy, choice, large bales	20.00 @ 20.50
Straw, straight rye	15.50 @ 16.50
Straw, tangled	10.50 @ 12.00
Wheat	10.50 @ 12.00
Oat	9.50 @ 11.00
FEED.—	
Bran, bulk, winter, per ton	20.00 @ 20.50
Bran, sacked, spring	20.00 @ 20.50
COTTON.—	
Middling upland, cwt.	9.00

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle slow and lower.

Extra steers	5¼ @ 5½
Good steers	4½ @ 5
Medium steers	4¼ @ 4½
Common steers	4 @ 4¼

CALVES.—

Veal calves a shade easier.

Extra calves	9 @ 9¼
Fair to good	7 @ 8½
Poor and common	5½ @ 6½
Grassers	3 @ 5

HOGS.—

Hogs steady.

Fat hogs, Pa., Del. & Md.	7 @ 8½
Fat hogs, Western	9 @ 9¼

SHEEP.—

Sheep and lambs steady.

Sheep, extra wethers	4½ @ 5
Sheep, good	4 @ 4¼
Sheep, medium	3½ @ 4
Sheep, common	2½ @ 3
Lambs	4½ @ 6½

New York, Jan. 31, 1903.

WHEAT.—	
No. 2, red	82¼ @ 84⅛
No. 1, Northern Duluth	89¼
CORN.—	
No. 2	69
No. 2, white and yellow	59 @ 60
OATS.—	
No. 2, white	44½
HAY.—	

Offerings of hay are light. The market readily absorbs everything that comes in. Straw is steady.

Prime, large bales, 100 lbs.	1.05
BUTTER.—	
Creamery, extra	26
Creamery, firsts	24 @ 25
Creamery, seconds	22 @ 23
State dairy, tubs, fancy	24½ @ 25
CHEESE.—	
Full cream, small	14 @ 14¼
Full cream, choice	13½ @ 13¾
Light skims, small, choice	12¼ @ 12½
Light skims, large, choice	11½ @ 12
LIVE POULTRY.—	
Ducks, per pair	80 @ 1.00
Geese, per pair	1.50 @ 1.87
Fowls, heavyweights, per lb.	14
Turkeys, per lb.	14 @ 15
DRESSED POULTRY.—	
Spring turkeys, per lb.	18 @ 20
Spring chickens, per lb.	16 @ 25
Spring geese, per lb.	10 @ 12½
Fowls, good to prime, per lb.	12 @ 14
Squabs, poor to prime, doz.	2.00 @ 3.75
EGGS.—	
State and nearby	22 @ 25
Western	21 @ 24
GREEN FRUITS.—	
Apples, per bbl	1.25 @ 3.50
Cranberries, per bbl.	9.00 @ 12.00
Cranberries, per crate	2.50 @ 2.75
Grapes, per case	1.00 @ 1.50
Grapes, per bas.	10 @ 15
Oranges, Florida, per box	2.25 @ 3.50
POTATOES AND VEGETABLES.—	
Potatoes, Jer. per bbl	1.75 @ 2.00
Penna. & Western, 180 lbs.	1.85 @ 1.90
Sweet potatoes, per bbl	2.75 @ 3.75
Celery, California, doz. bun.	65 @ 75
Onions, per bbl.	1.50 @ 5.00
Cauliflowers, Western, crate	2.25 @ 3.00
Turnips, Russia, per bbl	90 @ 1.00
Spinach, per bbl.	1.00 @ 1.50

WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.	
XX and above	30@32
X	27@29
Medium	30@32
Quarter blood	29@30
Common	26@28
UNWASHED (light and bright.)	
Fine	19@22
Medium	22@23
Quarter blood	22@23
Coarse	19@21
UNWASHED (dark colored.)	
Fine	15@16
Fine medium	16@18
Medium and quarter	18@19
Coarse	16@18
COMBING AND DELAINE FLEECES.	
Washed fine Delaine	32@34
Washed medium	30@32
Washed low	29@31
Washed coarse	27@28
Unwashed medium	23@25
Unwashed quarter blood	23@24
Braid	20@22

Gold Stocks FREE 5 shares (paid up) in a good Cripple Creek gold mine free to all who send us 50c. for big weekly illustrated family and mining paper 6 months' trial. Clubs of 2 or more (with shares) 40c. each. Stamps taken. **Western Weekly, Denver, Col.**

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Rochester, N.Y.
THE AUTO-SPRAY best for all hand work. No continuous pumping. Compressed air runs it to spray ½ acre of vines. Boy can carry and operate. All working and contact parts of brass. Long line of high grade sprayers for every purpose shown in Catalog A. It is FREE. Write at once if you want the agency.
E. C. BROWN & CO., ROCHESTER, N. Y.

After Abortion Cows should be injected with Hood Farm Breeding Powder. Used in connection with Hood Farm Abortion Cure it is the best means of preventing abortion.
Two sizes of each, $1 and $2.50. To any railroad express point in U. S., 25 cents additional. C. I. Hood & Co., Lowell, Mass.

The Eclipse Corn Planter. Unique. Easily adjusted. Easy to handle. Weighs 150 lbs. Durable, economical. Send for free catalogue. The Belcher & Taylor, A. T. Co., Box 80, Chicopee Falls, Mass.

Best Results in feeding for milk are obtained by adding some **BUFFALO Gluten Feed** to balance the ration.
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Sent free. Write to-day.
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THE GLUCOSE SUGAR REFINING CO.,
The Rookery, Chicago, Ill.

WILSON'S New Green Bone Shell Cutter for the Poultryman Also Bone Mills for making phosphate and fertilizer at small cost for the farmer, from 1 to 40 horse-power. Farm Feed Mills grind fine, fast and easy. Send for circulars. WILSON BROS., Sole Mfgrs., Easton, Pa.

THE PITTSBURG TUNNEL MINING CO.
The property of this Company consists of ten full mining claims in the wonderful THUNDER MOUNTAIN Idaho district immediately adjoining the famous DEWEY mine which is now producing nearly $1,000 per day and could not be bought for
TEN MILLION DOLLARS
Idaho, with the exception of California, has produced more gold than any other state in the Union, and the HALF HAS NOT BEEN TOLD as to its inexhaustable mineral wealth.
The greatest mines—those paying the largest dividends, owe their success to large bodies of medium or low grade ore—as proof of which the celebrated "Homestake" last year paid thirteen dividends of 50c on each share of stock; yet the average assay was only $3.53 per ton.
WE can mine ore at a profit assaying as low as $2.00. Out of 263 assays, discarding all over $100 per ton, the average was $6.11 The greatest number assayed between $3.00. and $20.00, with occasional pockets running much higher than any of these.
The general average mill runs of ore taken from the "Dewey," "Sunnyside," and PITTSBURG TUNNEL CO. properties is $7.50 per ton in gold.
This briefly describes in a very meagre form our property and its possibilities. But no matter how good or how great its prospects, such a body of rich ore needs a greater equipment.
We desire to ship not later than June 1, 1903, a sixty stamp mill and have it in operation Aug. 1, 1903. To accomplish this within the time named, the Company has decided to place upon the market a limited amount of Treasury stock for DEVELOPMENT PURPOSES ONLY, feeling confident of being able to earn dividends from the day the machinery is installed. The price is 10c a share—par value $1.00—non assessable—non-forfeitable and no personal liability.
SEND FOR PROSPECTUS. IT TELLS THE WHOLE STORY with ACTUAL PHOTOGRAPHS of the property, mill site, ore bodies, water power, etc.
We shall also be pleased to answer all inquiries whether by mail or in person at our office.
THE PITTSBURG TUNNEL MINING CO.
934 Watson Building,
CHICAGO, ILL.

30.00 No 157
52.30 No 1804
45.00 No 1548
53.40 No 1693
53.75 No 1647
34.00 No 1641
36.50 No 365
$7.00 No 105
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for this top buggy, piano body 20, 22 or 24 in. wide, seat has solid panel spring back. Wheels, choice of height and size, 3 or 4 bow top. Boot, storm apron, shafts and anti-rattlers. 45 styles top buggies illustrated with large cuts fully described in catalog.
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SEND FOR OUR CATALOG. It illustrates and fully describes every kind of a vehicle and harness made. Cut this ad out and mail to us and we will mail the catalogue FREE. MARVIN SMITH CO., 55-57-59 N. Jefferson St., CHICAGO, ILL.

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Prize Offer.

One dollar each for the best four articles on either poultry raising, fruit raising, market gardening or spring care of horses, that reaches our desk before March 14, 1903. In treating of the first subject, give experience in both natural and artificial incubation. We want facts and figures. The second subject refers to small fruit. Under the third heading give us hints for hotbeds and the like; also figures that show the actual profit of market gardening. The fourth subject is one of vital importance. Change from winter fare, winter quarters and stand-still experience to the rush and weariness of the spring work is a crisis in the life of every farm animal. Give us intelligent notes along this line. Let no article, on any subject, exceed five hundred words. Let all enter this little competition, not for the small prizes, but for the good we may do.

◆

"Ah, well! for us all some sweet hope lies
Deeply buried from human eyes;
And in the hereafter angels may
Roll the stone from its grave away."

Editorial Chat.

A mother who has three little ones living and two dead, came in this morning to tell us how "baby is growing" and how lively she is. "Why," she said, "she is the only real live baby I ever had. She 'goos' and kicks and laughs and crows just as a baby should. None of the others ever did, and I think it is the food."

Of course we were all attention at once, because we have reason to believe that there are many H. C. mothers who will be benefited by hearing about this home-made food for the delicate babe, or the one deprived of the mother's milk. Following is the recipe: One even teaspoonful salt, three tablespoonfuls sugar, one tablespoonful graham flour, one tablespoonful oat meal. Put in a double boiler with two teacupfuls boiled water. Boil one hour; strain through a coarse sieve and add one quart freshly scalded milk. For a new born infant give one part of this mixture to one part boiled water. Increase the amount of the food used until at six months it may be used full strength. If your little one is pale, bloodless, lifeless or, in a word, anaemic, try the above. It is pitiful to think of the vast number of little ones who literally starve to death in homes of plenty.

Speaking of an infant reminds us of a yarn spun by another friend who "dropped in" the other evening. A Scotch baby was to be baptized. The father was to carry it to the kirk, the mother not being able to go.

"Now," she said, "John, don't call the baby a laddie, jest say an infant."

Full of the importance of his mission, he trudged off. When the minister was ready he asked: "What is the baby's na—e?"

"'Jessie."

Ah, Jessie! Is it a laddie?"

"Naw."

"A lassie?"

"Naw."

Finally noting the look of surprise on the minister's face, John drew himself together and said: "I think my gude wife said it is an ilephant."

* * * * * * * * *

A very pleasant reception, held on one of the cold afternoons the second week of January, was something to give a thought to others. In this instance the four entertainers had commodious homes, but for novelty, and that a very large company might be entertained, a hall was hired, handsomely decorated with evergreen, and lighted by electricity, subdued by rose colored shades. A screen of palms hid the mandolin orchestra. Circular tables were decorated with carnations and smilax. Brick ice cream, cake and coffee were served. The affair lasted just two hours—from three to five—and was voted "a great success" by all who attended.

Our farm friends could easily duplicate this, in a way, and give a fresh impetus to neighborhood sociability.

We heard recently of a "fried sauer kraut supper," given by a young lady living on a farm, to some of her town friends.

One thing we would say here, however, do not let social gatherings interfere with church work, as they are too apt to do at this season. Remember that "the life is more than meat." Let the great and first business of each of us be to "rescue the perishing;" after that a little harmless recreation is in keeping; however, we believe that too much social activity will kill spiritual activity. Sometimes one needs to take a firm and perhaps unpopular stand about these matters, but better that than soul poverty

"Dare to do right, dare to be true,
Keep the great Judgment Seat always in view;
Look at your work as you'll look at them,
Scanned by Jehovah and angels and men."

Last night at prayer meeting "witnessing" was the topic, which finally resolved itself into two queries. "Do Christians talk religion as much as they should every day?" "Should a minister, in making pastoral calls, confine his conversation to secular things; and should he go away without suggesting that prayer be had?"

We wish, under heading "The Sabbath Hour," our friends would express themselves briefly along these lines. About three hundred words must be the limit. We were about to give our opinion, but will withhold it until we hear from others.

◆

In Reply to Inquiry

S. H. H.

A young girl, constant reader, she says, of Mrs. Melville's department in the P. F., desires to know if one can buy the monogram or crest already embroidered to stitch on handkerchiefs, towels, etc. In reply I will say that they can be bought, and if you sew neatly you cannot tell them from your own hand work, and I would not attempt now to work them myself, since they do not cost much, and are often so much prettier than we can embroider ourselves. The initial letter is also much used in this way. You can get lovely large letters for towels, and dainty small ones for ladies' and gentlemen's handkerchiefs. And as you desire to finish up some towels and table pieces with monograms, you can do so and make them much handsomer by adding the letters or monograms. They are very ornamental and can be stitched on by hand in a few minutes. You ask if you can launder them so as to look filmy and new. Yes, it can be done. You must not put any starch or bluing in these, which are usually blue enough. I just wash them out in a bowl of rain water and add enough pearline to make a suds; then rub out quickly and lightly and rinse in warm water. While damp, place the handkerchiefs on my mirror or window pane, and let dry perfectly. Iron the towels while damp with hot irons. They will not look as though they had been laundered at all.

◆

Father's Rights.

AMELIA WILLARD HILLIER.

Much sympathy has been expressed for the aged, the homeless, the overworked mother, the orphan child, and even the tramp comes in for perhaps more than he deserves. Yet who pities the "hen pecked" man or the ignored father? A man "tied to a woman's apron strings" is no man at all. And 'tis a homely saying that "if a woman wears the breeches she has a right to them;" but there are two sides to every story. If a peace loving man marries a, what is termed, smart woman, who just knows it all, rather than live in constant war he yields to her sway, let her be right or wrong, and too "incessant bending unbends the mind," hence the man, not allowed to form and work out his plans, never develops into a full-fledged man. Even mistakes beget experience and experience forms and strengthens character.

A man can be a man without being a tyrant, yet tyrants are more revered, even by women, than is the submissive man. Women never adore anything that they do not have to look up to. In a word, deny it as we may, we like a masterful or manly man. Prudish women have also driven many a man into obscurity, or else to the bad. A house too nice to use, or, on the other hand, too untidy to use, or a woman always nagging, will render the best man miserable —if not send him to the dogs. Every wife owes a duty of respect to her husband and the father of her children, which it should be one of her main aims in her life to fulfill.

Think how disgusting it sounds for wife and children to mention the head of the household as "the old man," "boss," or "governor." How much more reverential to call him by the sacred name of "father." Even if he be unworthy of the name (as too many really are) anyone with self respect should not lower themselves to speak lightly of husband or father. A man has a right to expect, when he comes in from his work, a tidy house, good meals and wife and the children presentable, and the "hatchet buried." To be sure, he should be considerate, for in every home there are times when there is a jar in the domestic machinery, such as sickness, wash days, house cleaning, unexpected company, or perhaps the mother or domestic has an outing. At such times he should smile and not scold if some of his favorite dishes are not on the table or warm water not awaiting his toilet, etc.; but we are not looking on that side now, and "father" gets plenty of advice. He also has a right to know how most of the money is spent, yet not every small amount his wife or children see fit to use for their own pleasure or comfort. Although I am a believer in "father's rights" I am as much so in women's and children's rights.

"Has father a right to smoke and chew?" some may ask. Certainly he has, although it be a filthy habit. Many good men use the weed. After a habit is formed few can break off; yet I hold no man has a right to smoke in the kitchen or sitting-room and pollute the atmosphere for wife and children to breathe the rest of the day (while he goes out and enjoys the fresh air). Especially is this true in winter time when doors and windows are mostly closed. "Has father a right to swear?" No not even if a "button is gone," for it is "taking the name of God in vain, and He will not hold him guiltless," besides the example before the wards whom He has trusted to his care.

"Has the father a right to drink?" Now you all hold up your hands and shake your heads. Yet, pause and think, ye church member voters, who vote for licensed saloons. If fathers do not patronize them, who will? Mothers' boys? God forbid!

◆

Fashion Fancies.

Elsie Gray writes: Economy is a virtue that is not confined to the poor, for many a woman who is in comfortable circumstances takes pride in making the most of every dollar. This enables her to provide new books for the library, pictures or other little luxuries for her family, or perhaps there are poor neighbors whom she may help in this way, and thus bring comfort and good cheer into other homes.

There are very few houses that do not contain garments which, for various reasons, have been cast aside by their owners, yet contain plenty of good material to make something for a child. You will find an illustrated fashion magazine a great help, for it contains many styles which are handsome in effect and easily copied. It is a satisfaction to both wearer and maker to have garments fashionably made. These illustrations show many combination costumes, and suggest ways in which different materials may be used in the same dress.

There is nothing nicer for a school girl than flannel, cashmere and other woolen dresses, neatly made and protected by pretty aprons. Three dresses are usually required during the winter. Perhaps the dress Mary wore for Sunday last winter will do for one, with the hem let out to make it long enough, and new cuffs on the sleeves for the same purpose. For the other two, you will doubtless find old dresses of your own that can be taken apart and the best parts used in this way. Some goods will look like new if washed and pressed on the wrong side. Cloth that is alike on both sides will look fresh and bright if brushed, pressed and turned with the other side out before making it over. All children dislike faded dresses, and as most materials are apt to be faded when the making-over time arrives, it is well to remember that they can be dyed any darker color you choose with Diamond dye, and will be as pretty as new goods. Crimson, wine color, navy blue, dark green and seal brown are all beautiful shades and very becoming to children. Then the little dresses will be dainty and pretty enough for any little girl. Old linings will do for the skirts if they are washed, starched and ironed. Every child that goes to school should be provided with warm leggings. Men's clothing of medium weight make excellent ones, and a pattern for them can be had for a few cents. Bind the edges with braid, and face the edges for buttons and buttonholes with strong drilling.

Have you ever made over a coat of papa's into cloaks or jackets for the children? Nothing of that kind is more highly prized by the economical mother than the light weight overcoats that become frayed at the edges and under parts of the sleeves, while the remainder of the garment is quite good. A neighbor of mine used just such a coat to make a long cloak for her eight-year-old daughter. It had hung in a closet where the sunshine fell upon it through the open window, and she was surprised to find it faded in streaks. After it was ripped apart and washed she dyed it a pretty seal brown, and with the aid of a good pattern, cut it out. It was made with a double breasted front and a plain loose back. A fancifully shaped collar finished the neck. One should be careful in making a garment over to use the best pieces for the parts that will receive the most wear. Then if the garment is neatly made, the result will be satisfactory.

* * * * * * * *

Aline writes of boys' clothes. Good clothes are not only pleasing to look upon, but I believe they have a distinct moral influence on personality, and if you want your boy to respect himself and to be respected, you must give him nice clothes to wear to school, for no matter how cheap the material his clothes can be clean and not shabby. The economical mother will make suits for her small boys instead of buying the cheap ready-made garments, for, as a rule, the low priced suits are made of sleazy material elaborately trimmed to make them attractive, but they are seldom worth the money that is paid for them. It is better to purchase remnants of cloth, with good linings, buttons and patterns, and make the small suits, and the styles to choose from are as varied as there are different kinds of boys. The Norfolk jacket is always a comfortable garment for a boy and seems especially adapted for using old material, and a partly worn dress skirt of heavy cloth will often furnish enough good material for a stylish garment. If the old material is faded or streaked, the pieces can be colored any darker shade with the Diamond dyes for wool, and by using a good pattern and pressing carefully a serviceable suit can be made for a very small sum of money. If you are obliged to patch your boys' clothes, set the patches neatly, for if they attract the notice of his companions he is sure to be made miserable.

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The Farmer's Periodical List.

E. E. MILLER.

The up-to-date farmer and his family are readers, and the farmer who is not up-to-date must read if he hopes to become so. In this day of countless books and innumerable periodicals, a few suggestions may be helpful.

The farmer's agricultural reading should embrace at least three good farm papers. He should take his State or local farm journal, if he has one worth taking, and he generally has; also take one of the leading farm papers which have a national circulation and reputation. Then if he specializes in any branch he should take a paper devoted to that subject. If a man is really studying farming he will find time to read even more. It is well to remember, however, that one paper thoroughly read and studied is worth more than a dozen skimmed over. The bulletins of his Experiment Station, with such publications of the U. S. Department of Agriculture as may be of service, should also be secured and preserved. These, with a few standard agricultural books, will make a fairly good farm library.

If he has not time to read a daily newspaper— and many farmers have not—a semi-weekly edition, or one of the weekly news reviews will keep him up with the times. The weekly reviews are not only more reliable, but, to a busy man, more complete sources of information than the voluminous dailies. The farmer's wife should have one of the many excellent household journals, and if there are children, at least one of the best papers for young people should be taken. Here let me suggest that a young folks' paper the old folks do not care to read, is pretty likely to be a poor thing.

Then I think every farmer should take one good monthly magazine. Nowhere else can he get so much good reading for the money, and the dollar magazines are within reach of all. This list may already be alarmingly long to some, but I wish every farmer could have, in addition to these, one of the journals like "Country Life," or "Home and Flowers," which are devoted to a more beautiful American life. I am sure most farmers and their families can find money to pay for, and time to read all the above, and more, if they only cultivate a love for reading. But again let me say that quality is more than quantity. Take only good periodicals; but do not read them to the exclusion of the accepted masterpieces of poetry, fiction and history.

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The Practical Farmer in School.

CLIFFORD G. HOWELL.

Last Friday was "Field Day" in my school. Not a day of sport at football, but of such a practical and helpful character that I wish to tell the P. F. readers about it. To the young men had been assigned such subjects to prepare upon as the following: Corn Culture; Wheat Raising; The Cultivation of Sorghum; Culture, Harvesting and Feeding Cow Peas; How to Raise Oats; Sweet Potatoes; Raising, Harvesting and Feeding Millet. To the young ladies were given different kinds of flowers and garden products to prepare upon. From a number of large envelopes, bearing such labels as "Grains," "Vegetables," "Flowers," etc., I took a supply of extracts which I had made from the P. F., and distributed them as an aid in preparing upon the subjects assigned. Copies of the P. F. were hanging on a paper rack upon the wall, for reference; and samples of grain and seed were exhibited in our seed cabinet. The latter was made from a good sized box, with slanting shelves, all covered with nice wrapping paper. The seeds were put in little pasteboard boxes made from larger ones, and covered with tinted paper.

Visitors were invited. The mother of the young lady who had the subject of "Lettuce Culture," had received a prize for raising lettuce, and was present to tell us about it. Other visitors took part in the discussion. I was under much obligation to the P. F. for information on these subjects. Don't you think there will be a greater interest in such topics after a practical exercise like that?

Earleyville, Tenn.

[What a fine idea! We cordially endorse it all. So much more "civilizing" and edifying than pounding each other into jelly while a mob of people yelled themselves hoarse and swore and betted by turns.—ED.]

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Correspondence.

Aunt Araminta, Md., writes: Dear Mrs Melville, and sisters of the H. C.: As our Editress wants to know what we have been doing and where we have been since this time last year, I will try to send my mite to the general convention, but writing is so unsatisfactory. If we could meet in some big hall, with Mrs. Melville in the chair, and have an open parliament, would it not be just delightful? But writing to persons we have never seen is quite another thing. After we have looked one another in the face we can tell far better what we want to say to that person than we can know without seeing them. With Mrs. Melville it is a little different, for her pictured face was in the P. F. very soon after I commenced reading it, and in a recent chat she says it has been fifteen years—but it seems to me to be longer than that—but in all that time I have missed but two copies of the P. F. I, too, am proud of it, and recommend it to all my friends, and have sent many a subscription, knowing it would be a benefit to any family where it makes its weekly visit. But this is not to the point. In looking over the year just past, I find it has been a very busy, very happy one to myself. Not one friend lost, but many gained. Some new acquaintances among the shut-ins whom I have been able to help to some little rays of sunshine. One dear boy, whom I love and have helped through college, has graduated, standing high in his classes, and now is installed as pastor over his first church. Another poor boy that we are keeping, is progressing finely in a law school. Too, we have been able to send some help to foreign mission work. All this, with a bountiful harvest of all good things on the farm; barn, bin and closet full for winter, a good fire and a daily mail to the door, are some of the things that I am especially thankful for. One thing I have learned, and that is to trust the Lord more and more, and ask Him for all things needful, knowing that He will supply all we need if we will only ask Him in faith. Now I have rambled on and written all that I felt like saying, and have not told you a word about my trip that I want to write about. With best wishes for a happy new year I will close.

[Now is not this the nicest, homiest letter imaginable—just the kind that warms the stranger's heart and gives us each a glimpse of the sunny spots in life? May God bless Aunt Araminta and all the other helpful souls in our loved H. C.—ED.]

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Youth's Parliament.

Cassie Mahaffey, White Water, Col., writes: Dear Mrs. Melville: I am a member of the Band of Mercy. I joined when the Band was first organized. I lived at Naturita then. I have some new members for the Band of Mercy. They have all taken the pledge, Mrs. Nora Gregg, Mrs. Bertha Kay, Emma Brammiere, Mrs. Lu Gill and Joe Gill. Last year we were in California, and visited Grandpa Cutler's old home. We spent one afternoon there, and picked and ate figs from a tree planted by Mrs. Cutler. The place is rented now to strangers, and, like most rented places, is going to ruin. While there we visited a week with Mrs. Hurni, who sometimes writes for the H. C. We came here last April, making the last sixty miles with a wagon. We started to bring my kitty, but when we were about thirty miles from here we lost her at a farm house. The people found her and started her down to us by a neighbor, but she got away from him and has been gone all these months, though we did all we could to find her—and just yesterday she came to us. She seemed to know us right away, and came right to me to be petted. Her name is Lizzie, and she is all black. I have another kitten, a gray one, and her name is Beauty, and a little dog named Tito. I would like to correspond with someone about my own age, which is 15 years.

[We call this a genuinely interesting letter, and heartily welcome the new Band of Mercy members. We wish every boy and girl who has taken the pledge would send as many. Remember the pledge: "I will be kind to all living creatures and try to protect them from cruel usage." It saddens us to hear of dear Grandpa Cutler's home going to ruin. To us it is a thing most pathetic. Father and mother spend a lifetime making and beautifying the farm and then the children pass it over to strangers. But about Cassie's Kitty. How did that cat know where her people were? What she must have suffered all these weary months, alone and seeking her lost friends. We know Cassie will make her life all pleasant now. Come again.—ED.]

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Topic No. 560, Feb. 21.—*Growing Tomatoes for the Canning Factory. What Variety Have You Found Best, and How do You Manage the Crop from Start to Finish?*

Topic No. 561, Feb. 28.—*Have You Adopted Any Systematic Method of Improving Your Seed Corn? If so, How and With What Success?*

Topic No. 562, March 7.—*Have You Raised Good Calves Without Milk? If so, How?*

Topic No. 563, March 14.—*What Varieties of Pears Have You Found Most Profitable, and How do You Cultivate and Pack for Market? Have Dwarf Trees Been Profitable?*

Topic No. 564, March 21.—*For the Ladies. How do You Make the Washing of Dishes, Pots and Pans Easier and not at the Expense of Time and Cleanliness?*

Topic No. 565, March 28.—*Have You Ever Tried Flat Culture with Cotton, and What is the Best Distance to Thin in the Rows and Between the Rows?*

Topic No. 566, April 4.—*How Do You Raise Turkeys, and What Breed is Best?*

Topic No. 558.—What Sort of a Brooder do You Use for Incubator Chicks?

W. P. Rockwell, Rome, Pa.—As I live away up North, where the ground is locked up with frost about six months of the year, I find a little time besides caring for my stock, getting firewood, etc., to "piddle" somewhat with chickens, as the Editor calls it. I raise broilers during the winter, for the New York market, getting for them all the way from 15 to 40 cents per pound, according to the season. I use both hot-water and hot-air brooders, but I wish I did not have a hot water brooder on the place. The tanks are eternally leaking. I have good results with them in raising chicks, but have to keep repairing them. I never would buy another. The best brooder I have was made after plans furnished by the Poultry Editor of the P. F., when he was Editor of Farm Poultry. It was called the "Up-to-date Farm Poultry" brooder. I have lost the paper containing the plans. If anyone wishes to construct a home-made brooder they cannot do better than ask Mr. Hunter for the plans, whom I think would gladly furnish the required information. But I think about the best way is to buy from a first-class, reliable firm, a good, roomy brooder; don't get one too small and put only about one-half as many chicks in it as the machine is rated for. Any of the leading incubator manufacturers can furnish brooders that will give perfect satisfaction.

Clarence Huffman, Charleston, Ill. — The brooder used by our family for incubator chicks is a home-made one. It is divided into two parts, one part being used as a yard for the chicks to be fed and to play in, and the second, which occupies one end of the brooder, being used as a place for the chicks to sleep. In the centre of this division is a jar, under which the lamp is placed. Across the top of the jar two small boards are fastened, from which strips of cloth are hung so the chickens can huddle up under them. A small door leads from this part of the brooder to the yard where the chicks play. In some of the brooders the sleeping room is divided up into several rooms, so there will be no danger of crowding. It is covered with glass, and the room where the chicks play is covered with screen. This is a cheap brooder and answers the purpose very well. We have used these brooders with success for several years.

John F. Horton, Eden, N. Y.—Three years ago last spring we bought a small, single-walled incubator and an out-door brooder. The heat in the brooder was overhead, and the chicks would crowd and stretch up to keep warm. A good many were crowded to death in this way. We tried this brooder for two years. Last spring we purchased a 100-egg Cyphers incubator, double-walled, and two Cyphers out-door brooders. The heat for these brooders is furnished by a lamp under the floor, which heats pure cold air brought in from outside by means of a pipe. The heated air rises through the floor and comes out around a drum under the hover. We do not believe in having more than fifty chicks in one brooder. Last spring we hatched some in cold weather and as there is a run in the brooders we had no difficulty in keeping them. We did not lose any (only two or three cripples) for any reason that the brooder was to blame. We expect to purchase another incubator and two brooders next spring.

Susan B. Robbins, Abington, Mass.—We use the "Old Homestead" indoor brooder, made in Middleboro, a small town in Eastern Massachusetts. The brooder looks like an oblong box with two large lids on top. The lamp box is near one end on the side. It is lined with tin and the heat of the lamp goes up through a metal flue into the "tank" inside the brooder, an escape pipe coming out of the top. This hot-air tank is fastened to the lid and is lifted with it when the brooder is opened at that end. When it is shut down again the opening into the tank fits down snugly to the flue. The inside of the brooder is partitioned in the middle, making two square compartments with doorway and red flannel portiere between. There is provision for ventilation and glass windows let in the light so that if desired the lids may be kept closed at first. Being a top-heat brooder, all the floor space is available for the chickens' use. There are no traps for them to get crowded against, and being boxed in, there is no possibility of their getting lost outside and chilled. When they are large enough to run out into the room a door is opened, and they do not have to learn to go up and down stairs, as the bottom of the brooder sits on the floor of the house. After lighting the lamp the brooder heats up very quickly. The thermometer hangs on a level with the chickens' heads, and can be seen through one of the windows without opening the brooder. We have used bottom heat, side heat and hot-water brooders, but none of them can compare with this top heat pattern for results, in our experience. We raised one brood in it last spring without losing a chick, and no one could do better than that.

Mrs. Mary Plath, Hill City, Tenn.—For my incubator-hatched chicks I use a Cyphers out-door brooder, with excellent success, but I also have several brooders which I made and which have given very good satisfaction. As soon as I take the chicks out of the incubator I put them into the Cyphers out-door brooder, and there they stay the first few weeks, or until I need the brooder for a new lot; then I move them into another brooder made on the same principle as the first, but does not look quite so fine, for it is of my own construction. I bought the metal parts of the Cyphers Incubator Co., and for lumber I used dry goods boxes, then I made my brooder and it has given me good satisfaction. After taking them out of the first brooder I put them into my home-made one, and when I have to move them again I put them into coops, which I made from boxes, and in which I put a jug of hot water nights and mornings as long as the weather is cold, and later on only at night, as long as they need any artificial heat; it all works like a charm.

Herbert F. Smart, Long Valley, Cal. — I have two brooders, one I bought from the Stockton Incubator Co., and the other I made in this way: Having cut out the ends of an empty coal oil can, I cut down one side and flattened it out into one sheet of tin 3 feet by 13 inches, and placed it over a box 2 feet 9 inches by 12 inches, and thus formed a cover for the box. Then cut out a hole in side of box so I could put a lamp under the tin. Threw some dirt against the other side of box, for the chicks to run out. Made another box 2 feet 9 inches by 11 inches, with a small hole in it for the chickens, and, having placed an old sack over the tin, covered it with the second box, and it was ready for the chicks. The upper box, or cover, must be smaller than the tin, or the fumes from the lamp will get in the brooder and kill the chicks. If the brooder is too cold the chicks will crowd in the centre, right over the lamp. If it is too warm they will get as far from the centre as possible, and you can gauge your lamp accordingly.

Wm. Lea, Marietta, Ga.—From a little experience I had, I feel that I may say what brooder not to use—that is the brooder attached to the incubator. If eggs are being incubated at the same time, the brooder is warmer than it should be, with not sufficient means for diminishing the warmth. The chicks cannot get the sunlight, which is so essential to their well being. In caring for the brooder chickens, providing food and water, and cleaning the brooder as often as necessary, anyone is liable to seriously injure the eggs in the incubator, by jarring. Moreover, the attached brooders are not nearly large enough for the chicks when the incubator is run to its full capacity. I think, in any brooder, it is well to put in only one-half of the number of chicks it is built for, to prevent the danger of over-crowding. There are many things that can be truthfully said in favor of either out-door or in-door brooders, but I do not think there is anything to recommend the brooder attached to the incubator.

Walpole Nockolds, Oakley, Tex.—I use a "Common Sense" brooder, made by the Sure Hatch Incubator Co., Clay Center, Neb. It sits right on the ground, so that the little chicks have no trouble to get in and out. As soon as all are hatched I move them to the brooder, which has been heated to 95 degrees and the floor covered with sand. I let them rest till those first hatched are three days old, only giving them fine grit and water. Then I put some rolled oats and millet seed in a pile of sand in the little brooder yard, and the little fellows soon learn to scratch it out. This gives them the needed exercise. After they are two weeks old I feed them cracked wheat and corn. I get them out on the ground as soon as possible and increase the size of their yard by using wire netting or a slatted pen. I feed them little and often and they grow off nicely. They get green stuff, as I let them out every day and have grass, turnips, oats, etc., planted for my chickens. I keep the Barred Plymouth Rocks, as I find them to be good all around fowls.

J. Livingstone, Jr., Dunnsville, N. Y.—For the past two years I have been using two different kinds of brooders for incubator chicks. One is the Excelsior brooder, a square box about three feet square, with a galvanized tank a foot wide through the middle and just over the chicks' heads, which is filled with hot water, and kept hot, by a lamp at the end. This brooder is advertised as a 200-chick capacity, but 50 chicks or less is enough for any brooder. The other is a home-made brooder, which I made myself. It is heated by hot air. First I made a box 10 inches high and 3 feet square, which sits on the floor and is the base. Four 1-inch holes, 2 inches from the bottom, are bored in each side, to give the lamp, which is set in the middle, air. A small door is put in one side to put lamp in. At the opposite side a 2-inch hole is cut and a small chimney about a foot high is put on to carry the smell of the lamp away from the chicks. A low glass lamp, with a tin chimney with a small piece of mica in one side to see the flame, will do. Then make a platform 3 feet square, of 1-inch thick matched boards. Nail strips 1 inch thick around outside of this. Then put a piece of galvanized iron 3 feet square over this and nail fast. Bore two small holes in one of the strips to let air in. Bore a 2-inch hole in the middle of the platform, and put a tube on it about 4 inches high. This is the heater box. Put it on the base with the iron down. Then make a hover about 2 feet square, with curtain around the edge. Put legs about 5 inches high on each corner, so as to raise it off the centre tube, where the heat comes out. Make a small coop to put over all, with a place for chicks to run out and down a small bridge on one side. Light the lamp, and in about an hour enough heat will have come through the tube to heat the brooder. This heat flows out over the chicks, which is better than to have the heat come up under them. If the floor is too warm, put another floor on with air-space between. This brooder is heated quicker and cheaper than the one I bought, and takes just as good care of the chicks. This brooder cost me about $2.50, and the other cost $12. I believe that it is just as good as any brooder. Hot-air brooders are better than hot-water brooders.

Amanda Haynes, Swayzee, Ind.—I have a small house, about 8x10 (was an old granary), with a floor in it. I have a small stove, in which I burn gas. When my chicks are hatched I put them with two or three hens, which are set at same time the incubator is set, and place them in the house with a fire to suit the season. I usually put up a partition for each hen, so each chick will learn to know its mother, and do not let them outdoors until a week old. There I have little parks for each hen, and let them out as I see fit. When another brood is ready to come off I make a good coop out of a store box for each hen and brood, and put in the little parks, each hen to herself. When the chicks are strong enough to follow the hen I turn them free every day possible. Before using the house again it is cleaned, scrubbed and whitewashed, using coal oil and carbolic acid in whitewash, as disinfectants. I cannot have any luck if I do not have hens with chicks. They are more apt to stray so far away and get lost or be caught by cats, hawks, etc. Also, the hen will help call them home when a storm is approaching.

J. C. Gibbs, Dalton, Mass.—We have had as good success with a second-hand brooder costing $1, that would accommodate 50 chicks, made by running common conductor pipe through a box and back out again, as with the more expensive ones. If chicks are warm, have proper ventilation and cannot crowd and smother each other, it matters little what kind of a brooder they are entrusted to. If you wish to have good success with your brooder (whatever the make may be) begin now to feed for strong chicks by allowing good, sound oats and a regular allowance of animal food to form a part of your ration for breeding stock. Weak chicks are a disappointment in any brooder, so avoid hatching chicks from lazy, over-fat hens. More depends on the diligence and horse sense of the operator than on the make of brooder, manufacturers' claims to the contrary notwithstanding.

E. E. Higgins, Crow Summit, W. Va.—In the past few years we have used several different kinds of brooders. Our first venture in brooding chicks was with a brooder built after the following plan: A platform was made, on top of which was placed the hover. A square of sheet-iron was nailed to under side of this platform, an enclosed air-space about one inch deep being left between the sheet-iron and the platform. An oil stove was placed underneath this sheet-iron, which heated the air-space over it. Several small tin tubes were inserted in holes made in the platform, ostensibly for the purpose of bringing the heated air up into the hover; but as there was no inlet for the fresh air, there was but little air to bring up. This brooder did not give satisfaction, so was abandoned. Our next step in the manufacture of brooders was to build after the regular style. The heating arrangement was made of 2½-inch conductor piping, which extended around the top of the warm room, an elbow turning down at one end; under this the lamp was placed. This arrangement gave fair success, the greatest trouble being that it was warmer at one end than at the other. Then we built a hot-water brooder, using some old copper piping, which was soldered into a galvanized sheet-iron tank, under which was placed an oil stove. This did very well, but the sheet-iron tank soon burned out and leaked so badly that it was thrown away. We then purchased an out-door, hot-water factory brooder. This brooder was heated by several iron pipes connected to a copper boiler at one end. The brooder was divided into two parts, enabling us to divide a batch into two flocks. This brooder did fairly well. But last spring we built two brooders, after a plan of our own invention, which gave better results than any we ever used. The heat was applied in the centre, and a current of fresh, warm air was steadily entering the brooder all the time, and the chicks would lie down anywhere in the warm room, there being no "hot" places to hunt for.

SUMMARY.

As usual when the poultry questions come up, the Editor has little to say. He was very much amused last spring to see the whole family trying to get the little chicks into the brooder, and noticed then that 100 chicks seemed to be more than could be accommodated and kept comfortable, for a good many of them died. We do not know what make the brooder was, for it was an old one that was loaned by a neighbor who is very enthusiastic on the chicken question, and spends a large part of his time when free from his classes in the College, in pottering over the fowls. The hundreds he raises find more rambling space on our grounds than at home, and the same is true of other neighbors who keep chickens, for between them they have about eaten up all of our crimson clover patch, which might have been worth a good deal to us as hay for our horse. We have been enjoying eating some of the fowls of late and are rather rejoiced at their thinning numbers, for it makes the feed bills smaller. There are but two classes of people we think, who can make poultry pay. Those who make a serious business of poultry, and give their whole time to them, and who raise full blooded fowls and get fancy prices for them, and only depend on the general market for the surplus, and after these the farmer who has plenty of range and cheap feed and can make the poultry pay his grocery bills without looking into the actual cost of time and labor which would otherwise be of little account with some of the family. But where one has to pay fancy prices for feed, as we do here and is raising fowls only for home use, he had better buy what he needs from the farmers. We are sure that all we raise cost more than if we bought them on the market. They do not thrive confined, and when given the range of the place they make it impossible for us to have flower beds, which we prefer to chickens. And then, at times some one leaves the garden gate open, and it is often the case that more damage is done there in a little while than the chickens are worth. I fully realize the aggregate importance of the trade in poultry and eggs, taken as a whole, and know that it is enormous, but it would be interesting to have the exact report of individuals all over the country, who keep accurate accounts with their poultry. It is pleasant to have one's own fresh eggs and well fattened poultry, even if they do cost more than those on the market, and with most people we think they do, though the cost is not felt all at once as in buying. The North Carolina Experiment Station is going to test the matter of profit in poultry, and has a man all the way from Canada to undertake it, and we trust that he may be able to show us where the profit is. Only one letter which arrived on time has been ruled out. This was written on both sides of the paper, in pencil, and gave no experience in artificial brooders. We cannot use articles written on both sides of the paper, and, as a rule, draw the line at lead pencil, and, of course, want experience on the topic discussed.

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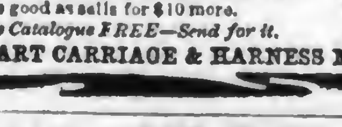

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Farm Implement Annex
To The Practical Farmer.

It is the purpose of this department to assist P. F. readers in securing the best implements and machinery for doing their work, and to so adjust, manage and care for same as to get the best possible returns from their use. We invite subscribers to write us fully and freely in regard to farm implements and machinery. Pointers on selecting implements for various kinds of work and soil; on buying, operating and caring for them; their defects, improvements, attachments, adjustments, etc., will be welcome. A cash prize of 50 cents will be paid for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Put at top of each article For "Farm Implement Annex," and send to Geo. T. Pettit, Box 32, Oneida, Kan.

Getting the Most out of Plow Points.—During the late summer and fall drought, when we should be plowing for winter oats and wheat, the extra expense of buying new plow shares is considerable, on account of the hardness of the ground; that is, where new points are bought whenever the old ones become dull. I find the following plan satisfactory, as a point will do about twice the usual amount of work, doing it better and with lighter draft. First use the new point till dull, then turn plow bottom up and, holding something solid under the share, chip off the upper side carefully and thoroughly. Use the point till it has again become dulled, then take it to any foundry and grind on an emery wheel, giving it a long, sharp bevel, and being careful not to draw the temper. Now use it till dull, chip again and when dulled the next time it will be ready for the scrap pile. A. R. CATON.
Chatata, Tenn.

[I used to have an uncle—a fine farmer—who often said it never paid to plow with a dull share. His plan was to use the share in hard ground only so long as it did good work. It was then taken off and saved for use in the spring when the ground was soft.—ED.]

The Drum Oven.—This is the best little convenience for the household in its line that we have found yet. While it only cost $2, wife would not take $5 and do without it. It is placed above the stove between two joints of pipe, like other drum heaters. One end is closed tight, while the other has a door to put things in to bake, the smoke passing through between the outer and inner walls. It is very handy to have one of these on the heater in the sitting room when we want to roast onions, or peanuts, or potatoes, also to bake biscuits, and even bread and pies when we do not want to heat up the big cook stove in the kitchen. It also helps heat the room, as it prevents the heat from going up the pipe as much as it would without the drum. Our drum is 14x18 inches outside, and 9x18 inside. Z. NEHER.
Leeton, Mo.

Use Some Paint.—We often see farmers' wagons and sleighs nearly worn out before any paint is put on them. If some knew their exact loss in dollars and cents from this neglect, they would be almost frightened. The tires on an unpainted wagon will soon get loose, while if they are painted they will remain tight much longer. We have seen many breakdowns caused by tires running off, and in most cases the wheel is spoiled. One must watch closely, especially just before haying, and give the wheels a good coat of paint if it is needed. First soak the wheels up with water and then before they shrink put on two coats of paint. This may save dollars at a time when time is valuable. In my 40 years of housekeeping I have seen these things occur, and I practice what I recommend. C. W. KELLOGG.
Bedford, O.

Buying a Washing Machine. — I noticed in one of our papers, an advertisement of a washer with which a small child could wash. As we had very large washings and wife was not very strong, I thought it would be a great help to have a good machine, so I sent for one. Terms were $10 cash or $12 by the installment plan, $2 monthly. The machine came and was given a thorough trial. It did good work, but had to be run by man power strongly applied, as my good wife will testify. I told a friend about the machine and its merits, and he said I could buy the same thing right at home for $8. I wrote the firm that the machine did not do as they claimed (their claim was that a woman could do her washing and read the paper at the same time); that I would either give them $8 for it or send it back. They did not accept, so I sent it back and ordered one from their agent. My wife is not able to run it, although she can do her washing in the old way by boiling first, using plenty of sal soda and good soap. When I am at home to use the machine I use it, because I can run it vigorously, which is very essential. To prospective buyers I would say, ask your dealers what they have in the line you want, and you will, in most cases, save money and have more friends.
Meadville, Pa. F. C. CHASE.

[I have seen a good many washing machines, and have furnished motive power for two or three, but have never used nor seen one that would do the washing while the lady of the house read the paper—unless someone else ran the washer. Cleansing dirty clothes by mechanical means always takes power. The fact that friend Chase bought a second washer of the same kind, after sending the first one back, would of itself seem to indicate that it went through the test all right.—ED.]

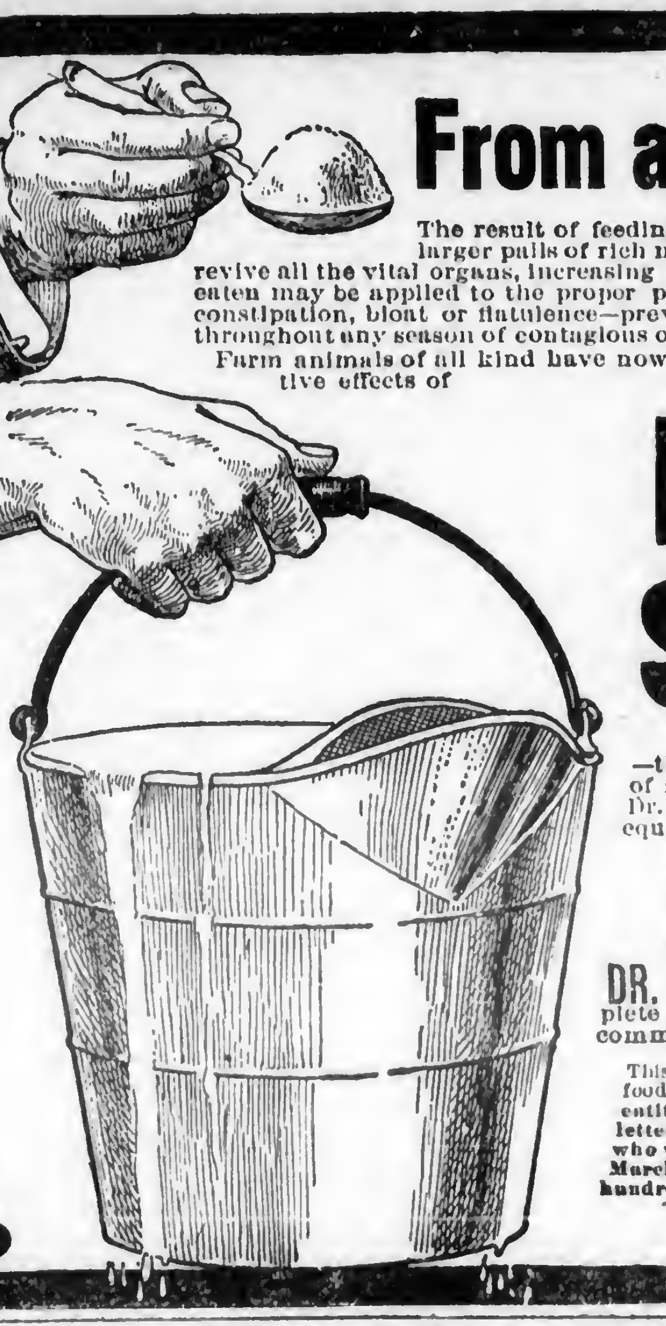
Hanging Barn Doors.—In the Annex for Dec. 6th, Mr. Sherwood gives what he terms "Success in Barn Door Hanging." I feel sorry indeed, that a practical builder should advocate the hanging of barn doors to swing in, not only because of the wet floor which you would have every time it rained from that direction, and which would soon rot the floor out, but the valuable space it would require to open that door, however small. Now I do not profess to be a practical builder, but do know that the best way to hang doors is on steel track with anti-friction door hangers. These are undoubtedly better than the ball bearing hangers in ease of operation. Also a driveway with 12 or 14-foot opening should have but one door to cover the entire opening, the hangers being placed about one foot from the corners. People make trouble for themselves when they make double doors, and it should not be done. It makes the doors too narrow for their height and they are easily thrown from the track. On the other hand, if the width of a door is equal to its height, and stop blocks are placed on the barn so they will strike door in centre (vertically) it will never jump off the track. A water table should be placed over door with a 6-inch drop over hangers. Door should be made to hang about one inch below floor level, which will exclude snow and rain.
Garden City, Mo. J. E. HOSTETLER.

Handy Farm Wagon. — A great majority of P. F. readers doubtless have an old wagon gear with dilapidated wheels, or know where they can get one for a trifle. To make new wheels for the gear, take a stick of solid timber that will not split easily, about 24 inches in diameter or a little larger, sawing it off exactly square. Now with a gauge make a mark 7 inches from end of log, then begin as near the ground as possible, on one side, marking over top of log and to the ground on the other side. Saw to the mark, which will give you a wheel 7 inches thick. Proceed in this way until you have four blocks sawed off. With nail, string and pencil for compass, mark a perfect circle on each block and hew off to mark. Find size of axle at point, also 7 inches back; compass wheel to size of axle on each side, and bore a row of half-inch holes around just inside of mark on outside of wheel, running them half way through. On the inside of wheel set bit half inch inside of mark. When holes are all made, knock out slug remaining in centre and chisel out to fit axle. If wheels season-crack and are in danger of bursting, cut a crease in centre all around, about an inch deep, and wrap No. 11 wire around a number of times as tightly as possible, and staple it down with fence staples in many places. If gear is stiff tongue, nail block on under side of reach to bring tongue to desired height. We have used such an inexpensive handy wagon for several years, and find it satisfactory for every purpose that a handy wagon can be used for. CHAS. E. KNOTE.
Greensfork, Ind.

[Painting the ends of the blocks thoroughly will help in preventing season-cracks, and then a set of red wheels will look better than wood-colored ones.—ED.]

CONSUMPTION CURED.

An old physician, retired from practice had placed in his hands by an East India missionary the formula of a simple vegetable remedy for the speedy and permanent cure of Consumption, Bronchitis, Catarrh, Asthma and all Throat and Lung Affections; also a positive and radical cure for Nervous Debility and all Nervous Complaints. Having tested its wonderful curative powers in thousands of cases, and desiring to relieve human suffering, I will send free of charge to all who wish it, this recipe in German, French or English, with full directions for preparing and using. Sent by mail by addressing, with stamp, naming this paper, W. A. NOYES, 847 *Powers' Block, Rochester, N. Y.*



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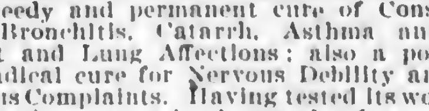

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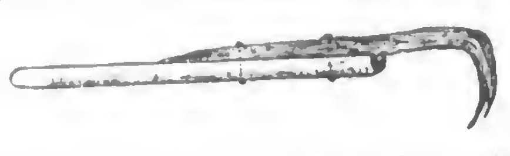
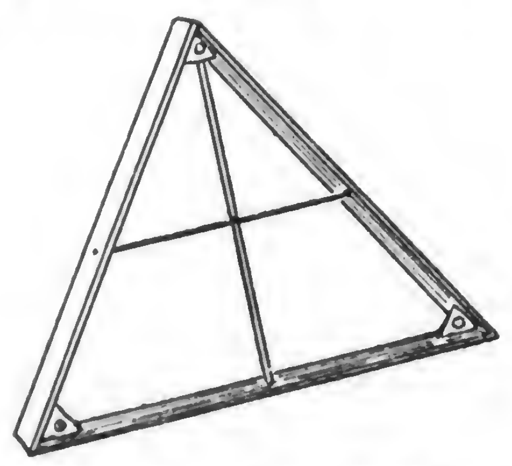
Barbed Wire Stretcher.—It is made from a piece of steel cutter shoe about 1 foot long, bent at right angles about 4 inches from one end. The shorter end is split and forms claws like the claws of a nail hammer. The other end is bolted to a handle about 3 feet long. It can be driven behind the wire and astride the staple, and the staple easily pulled, or it will grab onto any twisted wire, and used as a lever; can easily tighten several rods at a time. It is just like the claws of a hammer, and the shank bolted to the hammer handle, as shown.

Ulmer, N. Y. HENRY HULETT.



A California Triangle.—The most systematic and perfect method of planting fruit trees correctly. To make, take three 1x4s the length you wish trees to be apart, one to the other. Bevel and nail corners together; cut three 3-cornered 1x6x6x6 blocks; nail one in each corner and bore a 1-inch hole in centre of them to receive the marking pins. Nail a 1x4 inch strip through centre and a 1x1 inch piece across centrewise, as illustrated. Stick a pin into each hole, and if they fit each way you turn the triangle it is complete, and will plant trees as straight as by a compass, if you have the first row straight, and give 40 to 60 more trees to an acre.

Hammonton, N. J. C. L. MOSS.



Papering Whitewashed Walls.—Brush all lime off with a broom that you can. Then go over with hot vinegar, applying very liberally with a whitewash brush. Prepare the vinegar by allowing two pounds of brown sugar to every gallon of vinegar; then let it boil, and no danger of your paper ever falling off. We prepare our starch by mixing flour with cold water, and then pour boiling water over it until sufficiently thick.

Turbotville, Pa. MRS. LLOYD LEINBACH.

A Short Cut with Trash.—The country is flooded with trashy literature—cheap story papers, matter relating to Christian Science, so-called, physical culture, hypnotism, astrology, etc. Every postoffice and every neighborhood, almost, is overrun with it. How much harm this sort of stuff is doing, even in homes of respectability, no one will ever know. Recently we concluded to make a "short cut" with any of this sort of matter that comes our way. We examine it, and if found of questionable utility or morals, over it goes at once into the fire.

Spottsville, Va. B. W. JONES.

To Keep Stoves from Burning Red.—To those who purchase new stoves, if you want to keep them from burning red, rub or wash off all the polish, or, better still, do not let the dealer put any on. Then rub or scour with fine sandpaper or fine brick made wet. The smoother you get it the blacker it will be when heated. Gasoline will take off the polish. You can clean the stove with the dishcloth without getting it black; your irons will not get black to soil the newly washed clothes; besides, you save buying polish and the work of putting it on. If dealers only knew it and would not polish the stoves before sending them out, it would not only save work, but would prevent so much smoke when heated.

Goshen, Ind. MRS. H. J. SCHROCK.

Use for Old Rubber Boots.—Cut half soles from the legs of worn rubber boots and half sole your shoes. They are easily put on and make an excellent protection in damp places. Common shoe tacks will not hold the rubber on. Use broad headed tacks. The result is very satisfactory.

Dillon, Ga. JANE BRYAN.

My Short Cut Bread.—I took a fine batch of bread from the oven this morning at nine o'clock, which I made in the following simple manner: For three loaves take three quarts of flour, add a tablespoonful of salt, and a cake of yeast previously soaked in tepid water. Make into a stiff batter with warm new milk. Cover well and set in a warm place over night. In the early morning mold into loaves, let rise double in size and bake. Remember that bread will be better and will keep longer if cooled quickly where air can circulate around it. Also that potatoes render white bread too starchy to be healthful, besides the added labor. Try my way.

MRS. F. RHINEHART.

Steubenville, O.

How to Get Rid of Blister Beetles.—Get an old army musket or shot gun, load it heavily with powder. Late in the evening or after a rain when the ground is damp and the smoke from the powder will settle to the ground, whip the beetles with a brush and after they are running, shoot over the patch a few times and by the next morning your bugs will be gone. Have tried it with complete success every time.

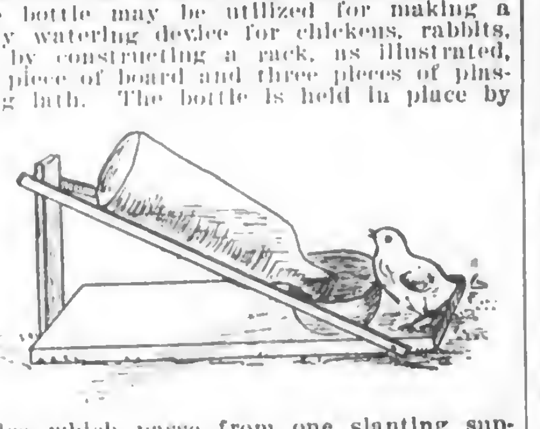
IRA C. HOWARD.

Washing Greasy Pans.—Much of the labor of washing greasy pans can be avoided if, before the pans get cold, you fill them with cold water. The grease will rise to the top and can be poured off. Another way of washing greasy pans is to put them on the stove with water in them, to which has been added a lump of washing soda. Let the water boil for a few minutes, and, when you pour it off, the pans will be free from grease.

Berlin, Md. R. P. HANDY.

Device for Watering Chickens.—A large bottle may be utilized for making a handy watering device for chickens, rabbits, etc., by constructing a rack, as illustrated, of a piece of board and three pieces of plastering lath. The bottle is held in place by a wire which passe from one slanting support to the other. The bottle is filled with water, then the mouth is turned down and submerged in a cup of water. The device works automatically. If a small cup is used, little filth can get into the water.

Auburn, Ala. FRED. G. MATTHEWS.



Home Hints.—An earthen jug filled with water, set on top of stove till hot, then corked and placed in a bed, will make it very comfortable for old, feeble folks, or for children. Closely packed in the foot of the bed it will remain warm all night. Care must be exercised not to put it to heat with the stopper in, as steam will explode it. To renew old clothes I use Perfection dyes for black, in preference to Diamond, as they are easier to "take" without having to put them in all over. I use a bench, and have the dye prepared and hot, and then brush evenly and hang up to dry. To renovate heavy garments, in black, use extract of logwood with copperas. Add a small amount of flour paste and some good vinegar, to keep from crocking. Have hot and use brush (shoe brush) to apply. Coats, pants, cloaks, dresses, etc., can thus be renewed at much less cost than to put them in the dye, and will look like new.

MRS. W. R. IRVINE.

Chesapeake, Mo.

To Keep Apples.—Nothing, perhaps, conduces more to the health of the farmer and his family than the free use of fruits, and especially apples. But how many there are who have only a meagre supply, and that for only a small portion of the year. One reason for this is the want of a suitable place to store them, the cellar of the dwelling house being too warm, causing them to rot or shrivel and lose flavor. An excellent place to store apples and also vegetables, is a cellar under an out-building, which is always cool and somewhat moist. This keeps apples firm and quality unimpaired. We have a cellar of this kind, with cement floor, and well drained. In this we keep apples until the new crop comes on, thus having them the year around.

W. H. ZIMMER.

Warsaw, Ind.

"WILFUL WASTE
MAKES WOEFUL WANT."

That old copybook maxim finds its most forceful application in the waste of vitality, which is called "burning the candle at both ends." A woman is often tempted beyond her strength by domestic or social demands. Some day she awakens from this waste of strength to the woeful want of it. She has become weak, nervous and miserable.

For weak, nervous, run-down women, there is no better tonic and nervine than Dr. Pierce's Favorite Prescription. It restores the appetite, quiets the nerves and gives refreshing sleep. It cures local diseases peculiarly womanly which undermine the general health. It makes weak women strong, sick women well.

"No doubt you have forgotten me, but after you read my letter you will remember me," writes Mrs. Annie E. Moring, of 238 7th Avenue, S. W., Roanoke, Va. "In the year 1897, I wrote to you for advice, which you gave me free of charge. When I wrote to you I was a wreck; I could not walk straight for pains in my abdomen; could not sit down, lie down, or get any ease at all. I had what was called the best doctor here but did not get any better until I went through a course of your medicine. I took eight bottles each of 'Favorite Prescription' and 'Golden Medical Discovery,' and ten bottles of the 'Pleasant Pellets.' I tell you the medicine made a cure of me."

Weak and sick women are invited to consult Dr. Pierce, by letter, *free*. All correspondence is held as strictly private. Address Dr. R. V. Pierce, Buffalo, N. Y.

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A Perfect Woven Fence No short wire ends to injury of stock. Heights 18—24 and up to 54 inches. Free catalog. CUYAHOGA WIRE AND FENCE CO., Cuyahoga Falls, Ohio.

WIRE FENCE at Wholesale. A 54-inch stock fence 29c per rod. Send for price list and FREE catalogue of Wire Fence and full line of Fence Supplies. W. H. MASON & CO., Box 69, Leesburg, Ohio.

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Do you know that hard steel coiled spring wire is twice as strong as soft. The Frost Fence is always made from heavy, hard coiled spring steel wires and heavy hard spring stays. Will last a lifetime. Send for catalogue.
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people would say, "Page Fence costs more than others, and is worth more," than to have them say, "It isn't so good, but it costs less."
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OR GEORGE W. DORAN, EASTERN AGENT, ARDMORE, PA.

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Send us to-day, your name and address on a postal and we will mail you FREE our handsome Illustrated Seed Catalog containing Due Bill and plan good for 50c worth of Flower or Vegetable Seeds FREE. Your selection to introduce
The Best Northern Grown Seeds
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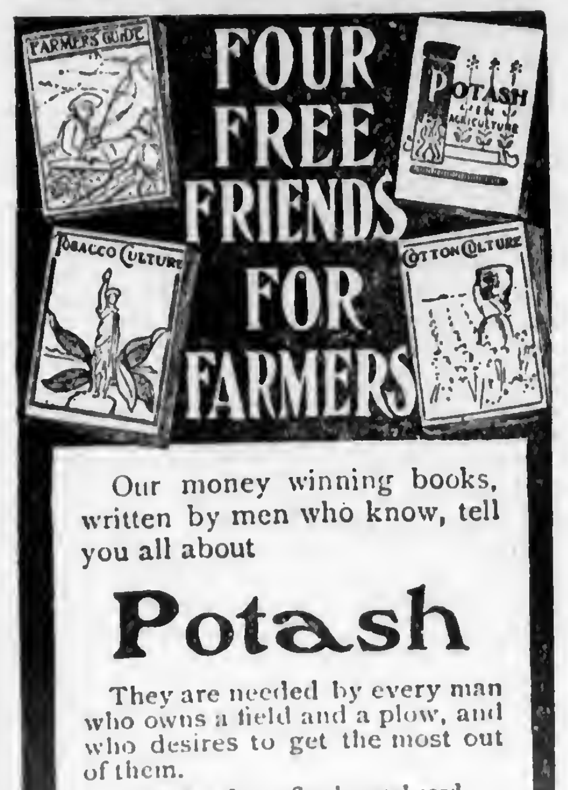

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They are needed by every man who owns a field and a plow, and who desires to get the most out of them.
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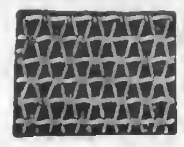

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originated right here on our 960 acre seed farms. The best, brightest and most prolific oats grown. Have averaged over 100 bus. per acre for entire crops right here in the Genesee Valley. They will do equally well elsewhere. Many farmers think their land is wearing out when all that is necessary is a change of seed. If you are the first to buy now, you can sell to all your neighbors next season. We have a large quantity of clean, bright, vigorous seed. Write for our illustrated catalog. Ask also about our *Seed Corn* and *Seed Potatoes*.
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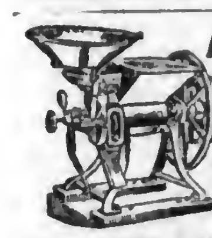

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Barren Cows.
Have you one? It takes the profit of two to carry her in the herd. There's a remedy.
KOW-KURE CURES,
not only barrenness, but milk fever, garget, slinking. It is not "for all animals." It's for cows only. It solves the difficulties for breeding cows. A powder to be mixed with the food. Endorsed by thousands of dairy people. Sold by dealers. Write us for free booklet, "Kow-Kure for Cows Only."
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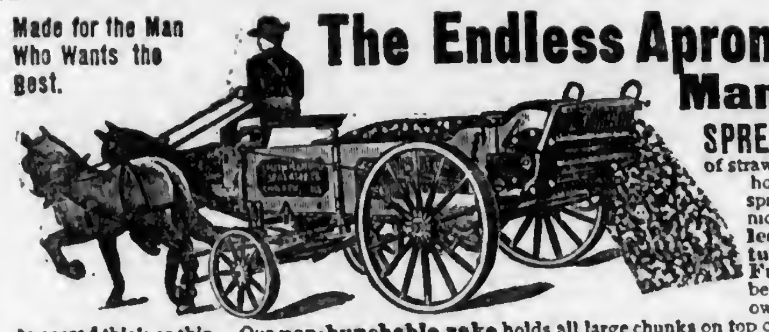

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The Endless Apron Great Western Manure Spreader.
SPREADS and pulverizes all kinds of manure, fresh, well rotted, mixed, full of straw or cornstalks, sheep manure. No matter how tough, we guarantee our spreader to spread it so evenly that one load will do more good than three spread by hand. Endless Apron is always ready to load. No turning back after each load is spread. Front wheels cut under and machine can be turned in its own length. REGULATED while in motion to spread thick or thin. Our non-bunchable rake holds all large chunks on top of beater until they are thoroughly pulverized. Combined Hood and End Gate keeps manure away from beater while loading and acts as wind hood in spreading. LIGHTEST DRAFT ever produced on a manure spreader, because front and rear wheels track and the load is nearly equally balanced on front and rear axles which brings load up close to horses. Send for free illustrated catalogue giving full description and how to apply manure to secure best results. Saves time, labor, money.
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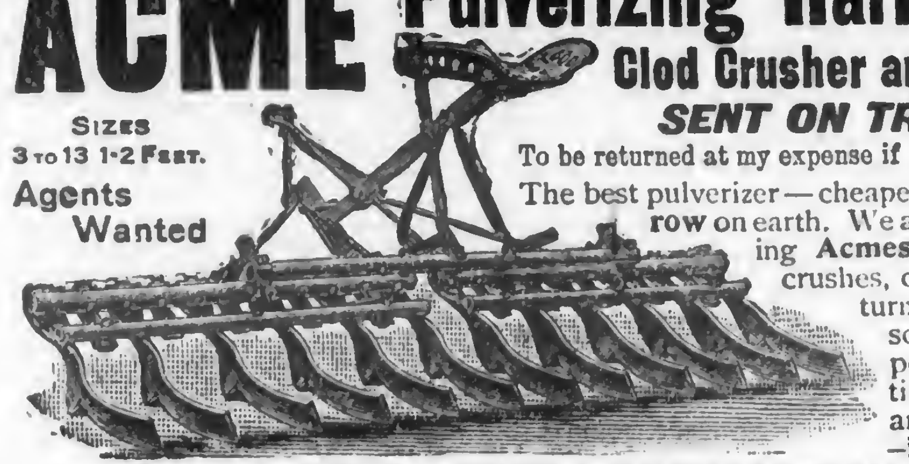

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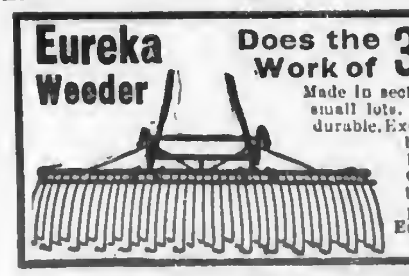

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Made in sections for rows or small lots. Light, handy, durable. Excellent for strawberry and small fruit cultivation. Catalogue of full line of farm implements free.
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44 Years in use. Improvements keep it always the best. The Cahoon Broadcast Seeder sows all grains and grasses, 4 to 8 acres per hour. Saves ½ seed. Always distinguished for uniform sowing.
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When, How, What, How much to sow. Practical information of great value to every sower. Mailed free for the asking. Send for it to-day.
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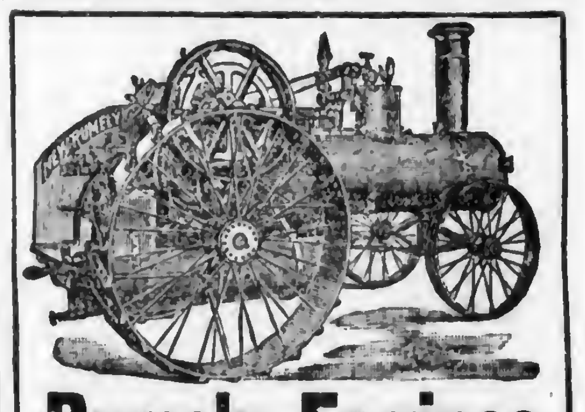

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both as to traction and generating and supplying power, are typical of all that is best for threshermen. They are rear geared, gears are of steel, cross heads and slides are protected from dust, they are free from all trappy devices. Single or double cylinders, burn wood or coal, or direct flue for burning straw. Fit companions in the threshing field for the famous New Rumely Separators. Free catalogue describes all. Write for it.
M. RUMELY CO., La Porte, Indiana.

WEEDING A GARDEN
by hand is the hardest kind of back breaking work. It makes one light headed, too, to stoop over so much, and the sun just seems to bore a hole into the back. The better way is not to have any weeds to pull. Mix a few turnip seeds with all others in drilling. These will come up quickly and show where the rows are. That gives you a chance to work the garden before the plants are up. Right here is the place to start in with our "Planet Jr." No. 12 Wheel Hoe and keep it going until after the harvest. It is fitted with a lot of attachments for working both sides of the row or middles; hills up and opens furrows and cultivates wide or narrow rows. Effectually breaks up crusts after rains and saves all soil moisture by a mulch of earth. Moves every particle of soil so
Planet Jr.
thoroughly that a weed doesn't get a chance to start. Then, too, you can do more work and do it better than six men can with common hoes.
If you need a horse tool consider the advantages of the one shown below. It is but one of our fifty seeding and cultivating implements, including plain and combined Seed Sowers, Wheel Hoes, Hand Cultivators, Walking Cultivators and One and Two Horse Riding Cultivators, Special Sugar Beet Tools, etc. Our new 1903 catalogue is very readable. It contains over 100 illustrations with full descriptions and prices. It costs you nothing and will make you money
Write for it.
S. L. ALLEN & CO.,
Box 711
Philadelphia, Pa.

Postal Card Correspondence.

This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

Located near Warsaw, in Kosciusko Co., and about 3 miles from Winna Park, now of national reputation. The past season has been very wet and cold, being unfavorable for some crops. Early potatoes were excellent, but the late ones blighted and rotted badly. Farmers are improving their farms by ditching, building, etc. Farm values have advanced considerably in last two years. Prices: Corn, 40c.; wheat, 69c.; oats, 28c.; clover seed, $5.50; potatoes, 45c.; apples, 60c. per bu.; butter, 20c. per lb.; eggs, 23c. per doz.; timothy hay, $12 per ton; hogs, $5.75 per cwt.; horses, $150 to $200 each; land, $40 to $75 per acre. Labor scarce and high. W. H. Zimmer.

Warsaw, Ind., Jan. 27, 1903.

A very mild winter; no snow to speak of, nor cold weather. A warm Chinook wind melting the snow on the mountains caused considerable rise in rivers. Grass is quite green; good winter for stock. Farm produce is high. Eggs, 35 to 40c. per doz.; butter, 50 to 60c. per roll; chickens, dressed, 15c.; turkeys, 20c.; beef, 8 to 10c. per lb.; apples, 50c. per bu. Wages high. Considerable building done during the winter. Good wages, high prices, plenty of work. Generally speaking, prosperous times for all. F. A. Hayes.

Vancouver, Wash., Jan. 22, 1903.

Located in Fairfield Co. Have had a severe winter; five degrees above zero at time of writing. Not much sleighing. Tobacco is the principal money crop on the farm, but prices are lower this season. Large crop of apples; sell from $1 to $2.50 per bbl.; shipped mostly to New York, 90 miles distant. Corn, rye and wheat are raised; all grains command a good price; butter, 28 to 30c. per lb.; eggs, 35 to 38c. per doz. Milk is shipped to New York and to local creameries. Farmers are doing well in this locality. S. E. Kellogg.

Danbury, Conn., Jan. 28, 1903.

Winter grain looking well, being well covered with snow from December 1st. Have had good winter weather, not being severe cold, but steady, with good sleighing and only few drifts. Farm stock wintering well; much fodder fed, being balanced with other feed. Cows are high and scarce, and good demand for all produce except apples, which are a drug on the market, the best only finding sale. Eggs, 26c. per doz.; butter, 24c. per lb.; rye, 56c.; oats, 32c.; corn, 60c.; buckwheat, 65c.; barley, 50c.; beans, $2.50 to $3; wheat, 80c. per bu.; rye straw, $10; hay, $8 to $12; oat straw, $6 per ton; wages, 75c. per day and board. Good demand for wood at $4 to $6 per cord; coal short. Good roads movement increasing State roads built. G. H. Townsend.

West Berne, N. Y., Jan. 28, 1903.

Situated between Kilsyth and Macdonald coal mines, Fayette county, near the line of Raleigh county, at the terminus of Loup Creek Division of C. & O. R. R. Since December 25th we have had almost incessant snow. But little work on farms to date, plenty of work at the mines, and farmers find ready sale for everything they raise to sell. Corn, 80c.; corn meal, $1; wheat, 75c. per bu.; hay, $22 per ton; Irish potatoes, $1.30 per bu.; apples, $4 per bbl.; sorghum molasses, 50c. per gal.; honey, 15c. per lb.; eggs, 30c. per doz.; chickens, 25 to 35c. each; cured bacon, sides, 13½ to 14c.; lard, 15c.; hams, 18c.; shoulders, 15c.; pork, 15c.; beef, 12½ to 15c. per lb.; stock hogs scarce and none for sale; cattle, 6½ to 10c. per lb., gross; milch cows, $35 to $60 per head; sheep scarce and none for sale; work horses, $50 to $150; mules, $[illegible] to $150 each; cabbage, 4c. and in demand; butter, 25 to 30c.; oleomargarine, 20c.; apples, dried, 8c. per lb.; coal, run of mines, $2.50 per ton; farmers can buy (and haul their own coal) at Lippi for $2 per ton; labor scarce; farm help receives $25 per month and board; house girls get from $2 to $4 per week. Health in this section is fine. Schools above the average and still progressing. Mrs. J. M. Adams.

Mount Hope, W. Va., Jan. 26, 1902.

Amesbury is located in the extreme northeastern corner of Massachusetts, in the beautiful Merrimac Valley. Land uneven, but that portion under cultivation is generally level and free from stones. Soil a sandy loam, but responds to good cultivaton and fertilization. Large quantities of stable manure and commercial fertilizer used. Most farmers progressive. Prosperous agricultural society and Grange. Principal crops are apples, hay, milk and vegetables. Prices: No. 1 Baldwin apples, $1 to $1.25 per bbl.; no sale for seconds; hay, $20 per ton; milk, in winter, 6c.; in summer, 5c. per quart; eggs, 40c. per doz. Squashes rotting badly. J. A. Wilson.

Amesbury, Mass., Jan. 27, 1903.

Situated in the southern part of the Chickasaw Nation in the Indian Territory. Winter so far very mild; rained every day of November except four, consequently lots of sickness. Drought of last summer makes feed high. Corn, 65c.; oats, 45c. per bu.; hay, 35c. per bale; sorghum, $7 to $10 per ton; eggs, 20c. per doz.; butter, creamery, 30c.; country, 25c. per lb.; apples, native, $1 per bu.; Kansas and Missouri, $1.50 to $2 per bu.; cabbage, 4c. per lb. Crops raised here are cotton, corn and sorghum. Pastures short. Lots of plowing for spring crops being done now. Four hundred Mississippi Choctaws in town awaiting allotment; more arriving every day. Mrs. Maud Cline.

Ardmore, I. T., Jan. 23, 1903.

Situated in the valleys of the east side of the Allegheny River, two miles from the postoffice, Templeton. The Allegheny Valley R. R. is on this side of the river, and the Buffalo & Rochester crosses the river five miles further south; good prospects of a new railroad or two, then this county will be pretty well supplied. We have had good sleighing for the last six weeks, thermometer standing at 10 to 20 degrees above zero. A little too cold for common work; good weather for hauling, and plenty of it to do. Wages, 40c. per hour; limestone, 10c. per ton; coal, 3 to 4c. per bu.; some coal land being optioned at $30 to $35 per acre. The first page is the best page of all, T. B. Terry's. He well deserves the first page. Kelly Gearhart.

Templeton, Pa., Jan. 27, 1903.

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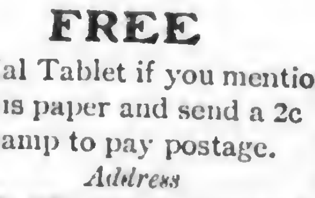

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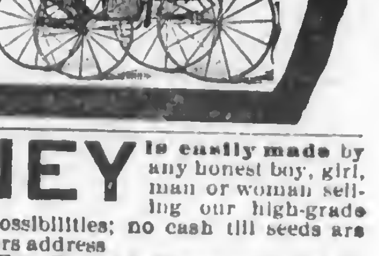

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THE PRACTICAL FARMER.

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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

Clover Cannot Be Grown Indefinitely in a Three Year Rotation.

One of our good friends, Hyatt L. Frost, attorney, Connersville, Ind., asks the following question: "The statement you made in the P. F. of Nov 22 makes me bold enough to ask you directly whether you believe clover will, in time, cease to grow on your land, if you continue you present rotation? I have had doubts for several years about clover continuing to do well where it was grown once in three years; that is, it is growing in the soil two years out of three. Of course, I know that feeding the land properly will help prolong the time that clover will do well, but will it do this indefinitely?" No, I do not believe it will. From time to time, during past years, the highest scientific authorities in this country and England have kindly warned me along this line. The history of clover growing in the older settled sections shows that they are right. There is no reason to believe that clover can always be grown two seasons out of three on any land, with any practical management. The writer has never intended to be understood as thinking that it could be. But in much of the country it can be grown two years out of three for a time with decided profit. That is what we have been doing and many P. F. readers have made money by following the same plan. There are sections where they grew corn every year on the same land for a long time; the same with winter wheat and spring wheat and other crops. No one pretends that such cropping can be carried on indefinitely, but it was often wise and necessary for people just starting, in debt for land, perhaps, and no money to buy stock. It was something so with us at first. We ran the clover plant for all it was worth, to get not only a large quantity of good hay, but fertility to grow large crops of early potatoes and wheat following. We were hard up, living in a poor old house and using an old patched-up barn. With us, then, it was not a question of how long our practice could be continued, but whether it was the one that would bring us the most ready money for a few years. There is no question but what it was the latter. We made money at a rate that surprised us, even more than it did others. Soon all debts were paid and several thousand dollars put into new buildings and contents. Meanwhile some people were condemning the practice and prophesying failure later on. See papers of 15 to 18 years ago. We naturally were not worried any so long as our profits, one year with another, would just about buy as many acres of land each year as we were farming. This is literally true. And naturally again, we did not spend any time worrying people with the dark side of the clover question, that it might not always do as well, but urged them, first, last and all the time, to grow clover and make money, as we had, and soon be in shape, as we were, to do some other way, if it became necessary. It is a pleasant thing to look back and think that thousands of farmers all over the country were induced to set the clover plant to work for them, increasing the fertility of the soil, as the result of our own success and of my everlastingly encouraging them through the papers and at Institutes. As I have stated often before, I believe a longer rotation will be a safer one; that is, one that can be continued much longer, or perhaps indefinitely. But the short rotation will bring up the land faster, and in many cases it is all right for a time. There are sections, we are told, where much clover has been grown in past years, where it can hardly be brought in now oftener than once in five or six years successfully. There is no reason for doubting this. Nature demands rotation and change. The land gets tired of any crop grown too continuously.

How to Prevent Injury from Washing on Rolling Land. — Friend Frost also writes that the future of agriculture on our rolling lands, that are kept under the plow regularly, in rotation, interests him deeply. He says: "The agricultural lands of this country that are subject to no surface wash at all are comparatively but a small part of the whole. What will be the result of cropping these rolling fields, that wash more or less in seasons of excessive rainfall, for centuries? Can this kind of land be so cultivated in rotation, growing grain crops in connection with grass and the legumes, and making the best use of the manure made, and perhaps of some concentrated fertilizer, notwithstanding the loss from washing from year to year? Of course, I know that lands of this class, especially those that are more than gently rolling and approach what might be termed hilly, can be about ruined in a few years by careless grain farming, but what are the prospects for the future under good management?" I think they are all right, Mr. Frost. When rolling land is kept under the plow, growing grain crops to sell off, the vegetable material in the soil soon becomes exhausted, and most soils will then wash badly. When grass and clover are grown in regular rotation, as often as they should be; when crops are fed out and all manure saved and returned; when something is kept growing on the land, so it shall not be bare any longer than necesssary, and never during the winter, in your latitude and south of there, then there need not be much trouble from washing on ordinary rolling fields. With proper management the soil is kept well filled with decaying vegetable matter and some crop growing about all the time. The vegetable matter in the soil makes it porous or spongy. Thus water enters it readily and is held instead of running off over the surface, as it will where the surface is hard and vegetable matter lacking. And water will not run off readily when a crop of small grain or grass is growing. If rye is sown in corn stubble much water will be held and washing prevented that might take place on a bare corn stubble. Plow a heavy sod for corn and potatoes, crops that must be cultivated, and where washing is more apt to take place. Then practice quite level culture; do not hill up, making drains to run off water and fine soil between the rows. The roots of the sod in the ground, and the level culture together, and not putting in two cultivated crops in succession, will enable one to prevent surface wash quite effectually. Tile draining is often a help along this line in connection with vegetable matter in soil, and grass or small grain growing, or level culture of corn and potatoes, it will often take surplus water out from under the soil, clear, instead of having it flow over the surface, taking particles of soil with it. With due attention to these points I believe that farmers have nothing to fear, practically, on ordinary rolling land for many generations to come any way. There is one thing more that man should do As nature slowly impoverishes the higher land by washing he should build it up. There is a natural tendency of fertility to go down to the bottom of the hill usually in time. We cannot always prevent it entirely. A very heavy down-pour will send water down between corn rows in spite of our efforts, once in a while. A wheat field will get a washing rain before the crop has covered the ground enough to hold all the water, in spite of a soil well filled with vegetable matter. The crops will be heavier on the land at lower part of field that receives this wash. When returning manure put it on the land that the fertility came from, not on the lower land that produced the heavy crop. Be careful about this. And as the years roll on and some little soil works down hill, plow the higher land a little deeper, bringing up just a trifle of subsoil to gradually make soil. This in connection with clover growing, good tillage and the manure that really belongs there, should keep the higher portions of rolling fields in good condition. The future of good farming in America is all right; but thousands of farms will be sadly injured before their owners learn to take proper care of them systematically.

Health Hints.—A Food Cutter That Will Please Many Elderly People.—How to Use Soft Foods Safely.—Many of our readers do not enjoy eating meat, corn, nuts, etc., doubtless, because their teeth are not very good. I wonder if they all know that there is a little food cutter made that they can fasten on a table in a few seconds and run through almost anything in the shape of food, cutting it finer than the best teeth could grind it? The name of the one we use is the "Ideal," and it is all its name implies. It is simple, durable and cheap. You can take it all apart for washing, in a few seconds, and put it together again as quickly. Is it hard for you to chew beefsteak? You can run it through this cutter quickly before cooking, or after; better after, as then you find the steak tasting just the same as if you had cut it with a knife on your plate. It changes the taste some to cut it before cooking. Few people with good teeth chew green corn properly, particularly the children. You can shave it off from the ears and put it through the cutter quickly, or you can run canned corn through. It is delicious, but of course should be chewed just the same, before swallowing. The advantage is that it is all in shape for digestion. All kinds of vegetables can be put through. Many a reader who hasn't been able to eat nuts for years, can enjoy a feast by spending half a minute in first running the meats through the food cutter. It does not grind, but cuts. If the nuts are not fine enough run them through a second time. Almonds, peanuts, walnuts, hickorynuts, butternuts—any kind, it makes no difference what. If nuts have troubled your stomach in the past it has probably been because they were not chewed finely enough. I have taken a lot of solid pleasure eating nuts lately, that were thus cut up They tasted as good as when I was a boy. They were doubtless better chewed. Nuts are not very extravagant food when you take into account the amount of nutriment they contain, and the fact that they are natural food, far better than pie and cake for dessert. We have had visitors with good teeth who enjoyed these cut nut meats. Oh, yes, I have store teeth, but they don't work as well as the natural. Money would hardly buy this perfect little implement if I could not get another We use the smallest size, No. 25; large enough. Any hardware dealer will order one for you, if he doesn't keep them. They are not much known yet.

An editorial statement appeared not long ago, in one of the best papers that comes to our home, that certainly can be improved on. The writer said that as the teeth gave out we ought to discharge them gracefully by eating softer food; that we ought to content ourselves with soaked food, and let young teeth, and better ones, wrestle with what was hard and tough. On the surface this appears to be sensible advice; but it is according to how people follow it. When they eat softer food, or soaked food, they are apt to swallow it quicker. The water in it partially takes the place of saliva. It can readily be swallowed with much less chewing, or movement of the jaws. To this extent the soft food is harmful. Nature has arranged for a secretion of saliva in the mouth when we are chewing, to soften up the food and help about fitting it for absorption into the system. And she has not arranged that when one's teeth gave out, or they were along in years, they could violate this law with impunity and use water in the place of the natural solvent she has provided. They cannot do so without paying the penalty to a greater or less extent. You cannot soak your bread in tea, or coffee, or hot water even, then give it two or three chews and wash it down with a sip of the liquid without doing harm. You cannot eat mushes, bread and milk, etc., as many people do, swallowing them with very little movement of the jaws and live out your full time in perfect health. You cannot, because you have been violating a simple law of nature, and although she is long suffering, she never forgets. You may ask why, then, nature has arranged to have the teeth give out as we grow old. She has not. That is man's work. And it comes largely from eating soft food, cooked food, and food deficient in the proper elements. We and our ancestors have violated a great law of nature and failed to fully use the teeth. As the hair on top of the head graduallly leaves when a tight hat is kept on much of the time, when we no longer need the hair to cover the head, so will teeth give out when they are not fully used and needed. But take people as they are, what shall they do about it? Why, as the teeth fail, eat soft food if you wish, but chew it as much, move the jaws up and down as many times, as you would to make liquid of the driest crust. Then saliva will be mixed with the food properly for digestion. Drink less, because you have taken some water in the soft food. Eat your bread and milk and oat meal with a small spoon, and hold it in your mouth and chew each little mess a long time In the absence of good grinders make the food as fine before putting it in the mouth as teeth could chew it, and then keep it in the mouth and move the jaws as many times as though teeth were grinding dry, hard food into a liquid form in connection with saliva. Thus no harm may come from poor teeth. Bread and some other foods need no preparation Put the bread in the mouth dry, and chew until it becomes liquid. Take time. Learn to get all the good taste out of it you can. You can do the same with tender meat by cutting it fine. For other things use a food cutter, but chew just as long, and have better health and live longer.

T. B. Terry.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Sawdust in Manure.—D. F. Dalzell, Farm School, Ashville, N. C. — "Will green sawdust in any way injure manure when used for bedding? I do not care whether it does it any good or not, as we have plenty of it and it is the most convenient absorbent?" In our experience we have found that where sawdust is used for bedding it is injurious to manure, and we had rather not use it if we could get any other bedding material. It decays slowly and sours the soil, and tests which we have made here show that the manure made in this way is far inferior to that in which straw and other bedding materials are used.

Fertilizer for Strawberries. — J M. Compton, Mauricetown, N. J.—"I have three acres of land from which, in 1900, I cut a large crop of crimson clover. Sowed again in 1900 in crimson clover and cut another large crop in 1901, and immediately plowed the stubble and put in Wonderful cow peas, using 100 pounds per acre of dissolved Carolina rock, and had a very large crop. I let the vines die on the field and in the spring of 1902 I set three acres of strawberries, without manure or fertilizer, and have a fine bed of strawberries. What is the best formula I could use to top dress this land to get a large crop of berries? How much would you recommend, and when should it be applied? My neighbors use about 800 lbs. of ground bone meal per acre, putting it on about the middle of January, and when in bloom putting on about 150 lbs. per acre of nitrate of soda. They tell me it is a great help, but they do not get any potash, and I thought possibly it could be improved." For a top dressing to be applied at once we would use a mixture of 900 lbs. of acid phosphate, 800 lbs. of cotton seed meal, and 300 lbs. of high grade sulphate of potash, to make a ton, and would use 1,000 lbs. of this per acre. It would be well, then, to use not more than from 75 to 100 lbs. of nitrate of soda per acre at blooming time. We would not use more than this, because you have an abundance of nitrogen in the fertilizer named, and while a top dressing of nitrate will increase the size of the berries, an excess will tend to make them soft, and injure their shipping quality. We prefer the sulphate to the muriate of potash as making a better fruit, though in appearance the fruit produced by the use of the muriate, which is cheaper, will be just as good

Crops for Hogs.—B. G. Ellingwood, Petrolia, Cal.—"I am farming and want to make hogs a specialty. I would like advice in regard to hogs and successive crops for feeding, as I cannot grow clover on account of dry summers. I can grow corn, rape, crimson clover in winter, and almost any other crop that would feed hogs. Our soil is black hill land and is good for from two to four tons of oat hay per acre, 30 bushels of wheat, 50 bushels of oats and 40 bushels of barley. I could fence off hog pasture, but it would not make much feed. Would like the latest information in regard to raising corn, implements to use and area one man can cultivate. The P. F. is the best farm paper I have ever read, and will be found in my house as long as I live." It is rather hard for one not accustomed to the peculiar climatic conditions near the California coast to advise intelligently in regard to methods to be adopted there. We would suggest that you also write to your Experiment Station at Berkeley, Cal., and ask their advice in this matter. It would seem to us that you might sow alfalfa even if clover dries out. Alfalfa sown in the fall, would get the benefit of the winter rains and would get its roots down below the summer drought, and would probably make a good pasture for the hogs. Oats sown in September, or as soon as you could expect rain, will also make a good pasture till used up. We think that in your climate you can make pork cheaper with wheat and barley than with corn, as we would suppose corn to be rather uncertain unless on irrigated land. Deep breaking of the soil, and then shallow cultivation kept up rapidly will go a long way towards warding off the effects of drought. You need a two-horse cultivator similar to the Planet Jr., so that one man with a pair of horses can do as much cultivation as two men with one horse each, and in this way one man can go over a much larger area. Just how much one man could work will depend largely on the man and the horses used. With the proper implements thirty acres will be easily tilled. Then could you not grow some things for the hogs to gather for themselves? You can sow crimson clover in the fall, and that will feed them some time in the spring, and if the clover is turned down while the land is still moist you can sow early cow peas like the Warren and get them ripe before the dry weather is too intense, and then turn the hogs on them. Or you can plant the Jerusalem artichokes and turn the hogs in to root the tubers out for themselves. These planted in the fall, will keep the hogs busy the next summer for a good while, If you can get two or three lots in cow peas and get them ripe before the dry weather is too intense you can run the hogs on them the entire summer by changing from lot to lot, and they should be ready by the time the crimson clover is used up. Kaffir corn will stand dry weather longer and bettor than Indian corn and will furnish a large amount of feed, and the saccharine sorghums will also survive dry weather for a long time, and hogs will thrive on the stalks. But if you will consult your Experiment Station we expect that they can help you more than we can. In the climate where the Editor lives there is no difficulty in keeping up a constant succession of feeding material, but your conditions are so very different that our practice would be of little use to you.

Seed Corn.—T. S. Fuller, West Freedom, Pa.—"Is it best in shelling seed corn to shell off the tips and butts, or is it best to shell all together?" Shell all the perfect grains on the ear. Experiments have demonstrated that there is no advantage in rejecting the ends of the ears. In fact the grains from the ends often come earlier than the others.

Keeping Potatoes. — W. O. Brooks, Southport, Tenn.—"Will someone write in the P. F. concerning the building of cold storage house in Tennessee? I want something that will keep potatoes in winter and summer so they will neither rot nor sprout. If I could keep my first and second crops till May and June I would get $1.50 per bushel." The early crop of potatoes raised in the South cannot be kept in winter no matter how they are stored. The second crop grown from seed of the early crop can be kept till May or June with the greatest ease if placed in a totally dark cellar from which the day air is excluded and the night air admitted so as to keep the temperature just above the freezing point. A regular cold storage house is an expensive affair, and it might be used to keep the early crop during summer, but it would not pay to do it at the prices the potatoes usually bring. Then if you keep your potatoes till May or June the early crop from the South is taking the market and no one wants the old potatoes except for seed for the late planting. The second crop in a dark cellar will not sprout till late in the spring here, when dug in December.

Ringing Hogs. — J. W. Laughlin, Ithaca, N. Y., sends an article for publication on ringing hogs. But as he writes on both sides of his paper it is not available for the printer. Our friend thinks that the ringing of hogs to prevent rooting is a cruelty to animals, as he thinks that it is necessary to the health of the pig to eat earth, and that was what his snout was given him for. Doubtless the snout was to enable the hog to get his food out of the ground, but that it is necessary for his health to eat earth we do not believe. Our friend says that hogs will not root up a new pasture, but will root in an old one. If the earth is necessary why do they not root the new pasture? The fact is that in a good growth of clover or peas or grass the pigs get food enough right handy, and do not need to root. In the old hide-bound pasture they root in order to get the grass roots and sod for food, as there is not enough above ground to supply them. Hogs are raised in the most healthy manner which never have a chance to root. The improvement in breeds has been largely towards the elimination of the subsoiling snout and other offal parts, and the increase in the pig of the most useful meat. The razor-back hog has an immense snout because he has to gather his food in the woods, but the modern bred hog has a small snout because human care takes the place of the great subsoiling attachment. Watch a fine Berkshire wading through a rich clover pasture. He has his head up and nips the blossom heads and never thinks of eating earth, for he is not well adapted to the practice and does not need to root when he can get good, clean food all around him. There is no cruelty in ringing pigs if they are where it is desirable they should not root, and are well fed otherwise, for they do not need to root unless rooting is necessary to find food, and not dirt.

Oats in Maryland.—Subscriber, Cecil Co., Md. — "Can the common oats be sown in North Cecil Co., Maryland, by the 25th of February? Will oats sown at that time, or later, make a green pasture all summer if grazed continually. Timothy and clover to be sown with the oats. Has anyone had experience with the steel roofing advertised in the P. F.? Will it resist lightning?" There will be no difficulty in sowing oats at that time if the ground is in condition to plow, but in that section it would be better to defer till March. I do not think that the oats or any other cereal sown in the spring will make a pasture all summer, and sowing clover and timothy with oats in the spring and pasturing the oats down will be a pretty sure way to destroy the timothy and clover. Far better set aside a good piece of land and seed it down for a permanent pasture and then do not pasture any of your cultivated land. Pasturing belongs to wide areas and cheap lands, and in your section we do not think that anyone should pasture the land that is worked in crops, but only a field set apart and kept in fine condition for the purpose of pasture only. I have not tried the steel roofing mentioned, but have used steel roofing very largely. If well put on and painted heavily on under and upper sides it will make a good roof, and will be more of a protection against lightning than a means for attracting it. If rods are used they should be attached to the metal roof to scatter any discharge that comes on the rod. A metal roof is less liable to damage from lightning than a shingle one.

Cross Cut Saw.—R. C. Randall, Caroleen, N. C.—"I would like to hear from any who has tried the one-man cross cut saw advertised in the P. F. by Chicago parties. I never saw one, and would like to know how they are liked." There are several of these saws and all of them do good work. We do not think you will make any mistake in buying one, but at same time we will be glad to hear from others.

Tankage.—W. Nockolds, Oakley, Tex., sends the analysis of tankage made at San Antonio and sold at $15 per ton, and costing him $3 to haul. He wants fertilizer for grapes, figs and truck generally, and the only other near-by fertilizer is cotton seed meal. The analysis shows that the article is rich in nitrogen and phosphoric acid, though a large portion of the phosphoric acid is insoluble. That is, it will become slowly soluble in the soil. There is no potash in the tankage, and it is one of the most necessary components of a complete fertilizer for fruits and truck crops. Cotton seed meal will contain some potash, but an addition of cotton seed meal to this tankage, will make the percentage of nitrogen, already too large, much larger. This tankage will make a good fertilizer and at the price named a very cheap one, but it would be improved by adding 300 pounds of the muriate of potash to every 1,700 pounds of the tankage. You can get the muriate of potash in New Orleans, or probably in Galveston or Dallas.

Bermuda Grass. — S. A. Gordon, Blanche, Tenn.—"If I plant the roots of Bermuda grass in February and cover three inches, will that keep the roots from freezing, and will they grow in April? When the weather gets warm I will not have time to plant them, as we are all busy then with work." The roots, as you call them, are not roots, but the running stems. True roots have no joints. If there is no very hard freezing after the cuttings are set they may grow very well. Better make it late in February as possible. We think they will grow very well

Manuring a Pasture.—W. K. Pruett, Wartrace, Tenn.—"I have a field, on two-thirds of which there is a good stand of clover. The other third was killed out by dry, weather. I want to graze the field. Can I sow the vacant land in oats or rye and get pasture with the clover for a few months? All will go in wheat in the fall." If plowed and sown early and the oats or rye or oats and rye are allowed to get a good start befor turning on the stock, you will get some pasturage from them, but not much better than the natural growth.

Weeder for Cotton.—J. H. Blackmer, Sinnett, Okla. — "I have become convinced that I need a weeder, and have been watching the P. F. to see if anyone uses the weeder on their cotton, but have not seen anything in regard to it. I want to know if it will do to go over cotton with it?" You can use the weeder on cotton until large enough to chop out and thin. It has been successfully used here on cotton. We will have a discussion on flat culture of cotton soon, and we hope to get out a full Pool on the subject.

How it Helps. — Reading the Experience Pool, and also your editorials in a recent issue, prompts me to say that I have been a subscriber to your excellent paper since 1890, when I started with a 60 days' trial. It is one paper I do not think of giving up. I cannot say which department has been most valuable to me, or most helpful; it is hard to go back and sift out the new and good things which have come to me through this farm paper, which, having adopted and made part of the economy of the farm have brought success to me; and then to say that this or that has been most helpful, or proved the greatest benefit, is almost impossible. The fact is, we are farming better, raising larger crops, which we dispose of to a better advantage, and our lands are being enriched in the doing it; better, more suitable and more lasting improvements are on the way. The efficiency of labor is increased by better methods and better tools, and last, though not least, mortgages are being paid off, and instead of them we find respectable bank accounts. And in all of these things the farm paper has been a very important factor, as suggesting and prompting, in every case, those principles and methods which have brought success. It is for this I like the P. F. If not discoverers, the P. F. publishers have not failed to bring to the front, and keep there, those facts and methods that are revolutionizing the industry of farming and bringing it up to a higher plane. All of the departments have been very helpful to me. While discouraged sometimes in trying to realize Mr. Terry's high ideals, still I have been greatly benefited by them. Such models of thoroughness, and plain, practical sense. How often they have spurred me to better work. Then I have found much to help me in the answers to queries. Mr. Gould's answer to a query about milk fever once saved me a valuable cow. I had given her up to die when I began the treatment recommended by him. The Cream of the Bulletins is always a choice bit. The Experience Pool, though not always bearing upon my particular work, I could not do without. The Short Cuts and Mistakes and Failures I always glean, for I find there many a good thought. Then there is the last page, with its letters from all parts. When I read that I get out my atlas and I read each letter as if it it were just for me. Locating each place I like to fancy the conditions and surroundings where they were written. Now, as a busy man, I do not often read the family circle or youth's department, but who ever does read everything? One thing more. I read every advertisement until I am familiar with it. It is true that I found two advertisers who were not truly upright in their dealings, but I do not see their ads. any more. The markets, well we are too far from Philadelphia to care much about them. With the Chicago Drovers Journal and The Live Stock World, we are well supplied with home markets; beyond that we seldom ask. Success and a happy New Year to the P. F.

Muscatine, Ia. E R. CARR.

* * *

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Food does not strengthen.

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It is hard to do, hard to bear, what should be easy,—vitality is on the ebb, and the whole system suffers.

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HOOD'S PILLS cure constipation, 25 cents.

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In plain sight of the operator.

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Used by the most successful gardeners. They do perfect work. Save time and money. Open furrow, drop seed, cover any desired depth, also marks next row. Latest and best Cultivating Attachments. Best material throughout. 1903 catalog describing our full line, free.

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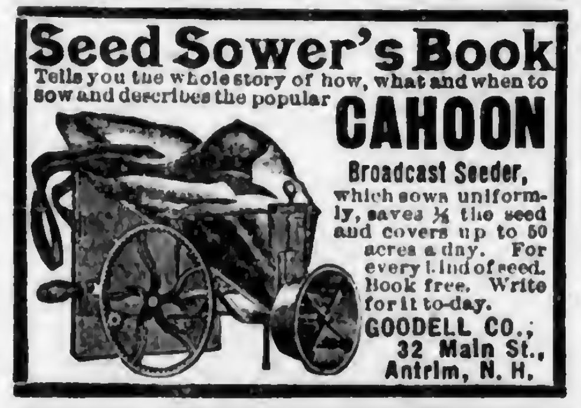

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Broadcast Seeder,

which sows uniformly, saves ½ the seed and covers up to 50 acres a day. For every kind of seed. Book free. Write for it to-day.

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always results where a Keystone Corn Planter is used. Drops the kernels in hill or drills any distance apart and sows any kind of pulverized fertilizer with utmost satisfaction. Works well in any kind of soil. Does not crack the grain and plants beans, peas, etc. Frame is steel, making a durable machine which is a pleasure to use. You'll never regret the purchase of a

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do not see the necessity for two wheels on a hoe. They like a Single Wheel Hoe because it is a trifle lighter than the Double, and it does not cost quite so much. To meet this demand we make the

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Single Wheel Hoe Cultivator, etc.

It is our latest 1903 model of this tool and is a decided improvement on anything of its kind we have theretofore offered. It is provided with two hoes for working middles or both sides at once, throwing dirt to or from the rows; three cultivator teeth for working middles; two rakes for pulverizing and smoothing, and a plow which is also an excellent furrow opener. Handles are adjustable to fit short

Planet Jr.

or tall workmen or children. All attachments are quickly and easily changed. It will work any garden crop planted in rows and one person can do more and better work with it than six men can do with hand hoes. Should you need a horse tool you will find the No. 8 "Planet Jr." Horse Hoe, etc., shown below to be the best in existence.

These are but two of our fifty seeding and cultivating implements, including plain and combined Seed Sowers, Wheel Hoes, Hand Cultivators, Walking Cultivators, One and Two-Horse Riding Cultivators, Special Sugar Beet Tools, etc. Our new 1903 catalogue is educating. It contains over 100 illustrations with full descriptions and prices. It costs you nothing and will make you money. Write for it.

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and four post angle steel towers. A complete line of pumping and power mills of the highest grade at extremely low prices. We can save you money on a *good* article.

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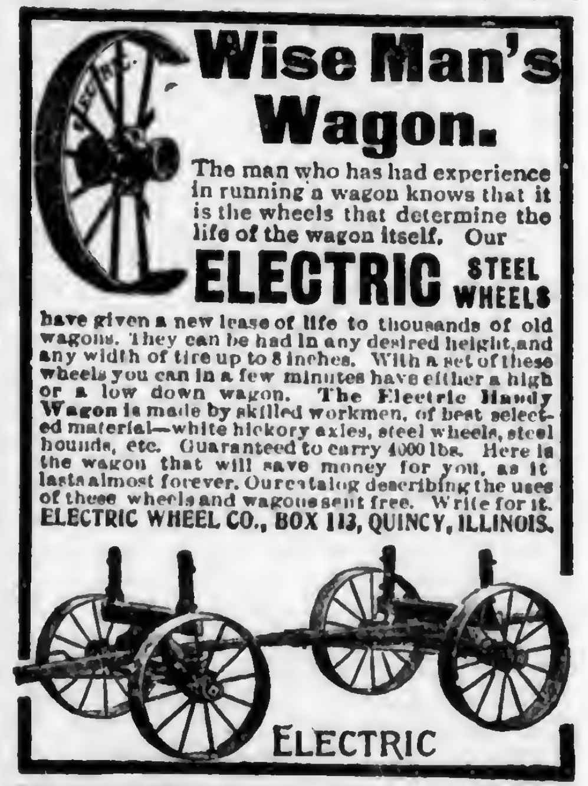
A complete line of Feed and Ensilage Cutters, Corn Shellers, Wood Saws, etc., at low prices.



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have given a new lease of life to thousands of old wagons. They can be had in any desired height, and any width of tire up to 8 inches. With a set of these wheels you can in a few minutes have either a high or a low down wagon. The Electric Handy Wagon is made by skilled workmen, of best selected material—white hickory axles, steel wheels, steel hounds, etc. Guaranteed to carry 4000 lbs. Here is the wagon that will save money for you, as it lasts almost forever. Our catalog describing the uses of these wheels and wagons sent free. Write for it.

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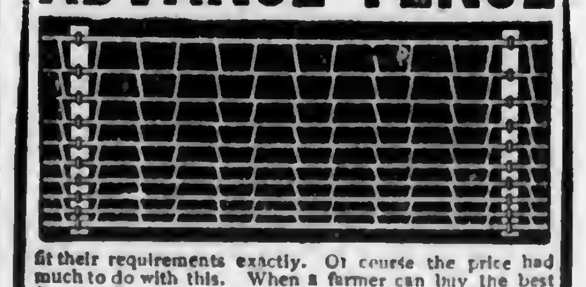

fit their requirements exactly. Of course the price had much to do with this. When a farmer can buy the best fence on the market at manufacturer's prices, he finds it a good and safe investment. It's so good you will order the second and third time. Your name and address on a postal card will bring circular and special prices. Have fence ready when you need it.

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We do not always know the constant danger that confronts us through all the daily walks of life. It may be an accident or sudden illness, or perhaps a disease that has been stealing upon us from day to day.

It used to be considered that only urinary troubles were to be traced to the kidneys, but now modern science proves that nearly all diseases have their beginning in the disorder of these most important organs.

Now by this is not meant that you should overlook all the other organs and merely look after the kidneys.

Your other organs may need attention—but your kidneys most, because they do most.

If you are sick or "feel badly," begin taking Dr. Kilmer's Swamp-Root, the great kidney remedy, because as soon as your kidneys are well they will help all the other organs to health.

The kidneys may get weak or diseased from a thousand and one causes; from overwork, worry, a simple cold, from lifting, a strain, or excess in high living.

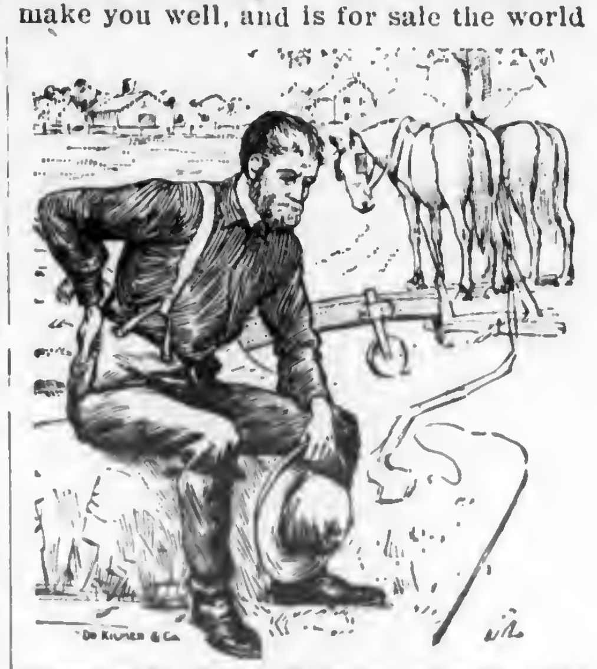
Others may suffer from diabetes, dropsy, swelling of the feet and ankles, rheumatism, bad blood, gout, gravel, catarrh of the bladder, sleeplessness, anæmia, nervousness, headache or neuralgia.

All these symptoms are due to kidney trouble, and the most prompt and effectual cure is Dr. Kilmer's Swamp-Root, the great kidney remedy.

In taking Swamp-Root you afford natural help to Nature, for Swamp-Root is the most perfect healer and gentle aid to the kidneys that is known to medical science.

If there is any doubt in your mind as to your condition, take from your urine on arising about two ounces, place it in a glass or bottle and let it stand twenty-four hours. If on examination it is milky or cloudy, if there is a brick-dust settling, or if small particles float about in it, your kidneys are in need of immediate attention.

Swamp-Root should at once be taken upon the least sign of ill health. It will make you well, and is for sale the world over in bottles of two sizes and two prices—fifty cents and one dollar.



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A Perfect Weeder

in all soils, under all conditions. The all important feature of flexibility of teeth is near perfection in the YORK IMPROVED.

Made of square spring steel with round points, and set staggered in strong but flexible angle steel frame. Wide clearance, no clogging, teeth too strong to break. Multiplies producing qualities of soil and does not whip or bruise growing plant. Adjustable handles and shafts. Write for free descriptive circular.

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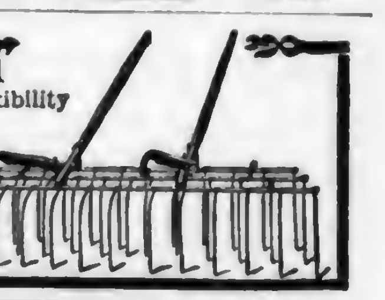

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Clod Crusher and Leveler

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Sizes 3 to 13 1-2 Feet.

Agents Wanted

To be returned at my expense if not satisfactory. The best pulverizer—cheapest Riding Harrow on earth. We also make walking Acmes. The Acme crushes, cuts, pulverizes, turns and levels all soils for all purposes. Made entirely of cast steel and wrought iron—indestructible.

Catalog and Booklet, "*An Ideal Harrow*," by Henry Stewart, mailed free.

I deliver free on board at New York, Chicago, Columbus, Louisville, Kansas City, Minneapolis, San Francisco, etc.

Address DUANE H. NASH, SOLE MANUFACTURER - MILLINGTON, NEW JERSEY.

For your own sake BUY THE IRON AGE Tools They help the crops and the men who work them.

Live Stock and Dairy.

A Great Combination.

While we keep this department up-to-date on stock and dairy matters, we know that many of our readers would like, in addition, an exclusively stock paper. Among them we regard The Breeder's Gazette, of Chicago, the leading one. We have made arrangements by which we can send the P. F. and The Breeder's Gazette both one year for only $1.90.

Stock Queries.

Ration for Cows.—Will you please advise a ration for my cows? I have lots of corn stover, but no hay; have plenty of corn. Bran sells at $20; sugar feed at $18; cotton seed at $30 per ton; brewers' grains, wet, 14c. per bushel, which weighs about 40 pounds. Is 14c. per 40 pounds too much to pay for brewers' grains, compared with other nitrogenous feeds. CHAS. P. RIEGEL.
Pottstown, Pa.

(Reply by H. Stewart.)

Corn stover, saved in the best manner, is worth, for feeding, one-third as much as hay, so that this difference is to be made up of some concentrated feed; for it will not do to feed three times as much stover as of hay and expect to get equivalent results. In the writer's dairy the cows are fed on corn stover of good quality, a full bushel basket twice a day. The whole feed is as follows: 15 pounds of stover cut into chaff; 8 pounds of wheat bran; 4 pounds of cotton seed meal; 4 pounds of corn meal. This is fed half in the morning and half in the evening, with as much of the stover as will be eaten whole at noon, and two pounds each of corn meal and bran. On this feed the cows are making as much butter as they did on the summer pasture, with half the ration of grain. Brewers' grains are not so productive of fat in the milk as they are of milk. They are most desirable for cows making milk for sale. Cotton seed meal, at the price mentioned, is a cheaper feed for making butter. A good many years' experience has proved the combination of feeds mentioned, the best for cows making butter. Something may be sacrificed—if there is any sacrifice—for the quality of the butter, and the feeds mentioned are unequaled for this as for quantity.

Beets for Cows and Hogs.—Which do you think I will find most profit in raising, for cows and hogs, the half sugar mangel or sugar beet? I tried a few of the mangels the past season, and fed to the cow, which she relished very much, but I had no way to test the milk. S. L. KEEBLER.
Limestone, Tenn.

(Reply by H. Stewart.)

There is no sugar mangel. The mangel is a beet, truly, but is quite a different variety from the sugar beet, and it has no sugar in it. It has more value as a feed than the smaller sugar beet, on account of its large yield, which will easily amount, on good land and with good culture, to twenty or thirty tons to the acre. It is an excellent feed for swine, and cows as well; but it has no value in the way of increasing the quality of the milk of cows, but yet along with the proper kinds of grain food it increases the yield, so that when mangels are fed to cows it will be necessary to feed a sufficient quantity of rich milk and fat producing food, such as corn meal, or bran or any of the oil meals, to get the best results.

Sheep Raising.—I would like advice as to the best breed of sheep. I want to run my flock to 300, or to the limit of my pasture, and have lambs to drop in November and December, and feed for early Northern market with dressed lambs. I will grow corn (the fodder will be shredded, or, if advisable, a portion can be put into silo), oats, peas and clover for hay; will sow four acres to alfalfa next fall. Have given you an outline of my crops at present. The pasture will be permanent (for a while at least). I want to buy 50 ewes in the spring, can I find the right kind in North Carolina? Z. H. POSTLES.
Hudgins, Va.

(Reply by H. Stewart.)

It is not easy to get lambs dropped in November or December, except the flock is of Dorset blood, pure or nearly so. A pure Dorset ram, bred with Shropshire ewes, makes the best lamb for the market in every way. It will be easy to gradually get Shropshire and Dorset bred lambs to breed in time for your purpose. The feeding is a simple matter. Corn fodder is an excellent feed for sheep, but it should be grown for the special purpose. Sweet corn is the best, choosing some of the early, small-growing kinds. Silage is not fit fodder for sheep, for which sour food is entirely inadmissable. Oats and peas, grown together, make one of the best fodders for sheep and will yield, on good ground, a very large crop. The tall oats, Black Tartarian, and the large marrowfat peas, will yield a large quantity of the best kind of fodder if cut when the blossom is past and the grain in its soft condition. You may sow the early cow peas with this corn and get an additional yield. Alfalfa is not a satisfactory crop in your locality; it is suited better to a dry climate, and one where there are not alternate frosts and thaws, as the effect of this is to draw the roots out of the soil and so destroy the whole crop. It is not wanted, anyhow where clover and peas will grow, as they will to perfection in your locality, and make the best hay. Alfalfa is a poor hay crop, for when dry the leaves are largely shed and the hay is mostly stems. It is not needed either with clover and peas, and the kind of fodder corn mentioned, which give most excellent fodder with the least trouble. Sheep turned onto your briar and brush land will soon clear out this rubbish, when grass may be got in with ease. This is the cheapest and easiest way to treat this land. Your fifty ewes will make a good beginning, and the ewes thus bred on the method above suggested, will be crossed by a pure Dorset ram, and the early breeding habit of this breed will be inherited. Once established, this habit will be permanent, and may even be gradually advanced until the lambs may be dropped in September and be ready for sale at the Christmas holidays.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 1016 Davis St., Evanston, Ill., who has editorial charge of this department. All inquiries requiring answer by mail must be accompanied by a fee of $1 each.

Tumor.—I have a mule twelve years old. He has had a lump for eight years, by the side of his navel, about the size of my thumb from the first joint out. This lump has a stem or root; has been covered with hair until the last three months. Got it split in hauling logs and the lump finally disappeared, but the skin never grew over. Now the lump has grown back the same size, and is raw. Have been told that he ran away and hurt himself. GEO. W. CONLEY.
Woodlawn, N. C.

There is a small tumor present, which may be of a fibroid nature, or even a wart, which we could not decide without a personal examination. It would be perfectly safe to ligate it tightly by means of a silken cord or by placing a small rubber band around it several times, if that will take hold close to the skin. Either plan will lead to its dropping off after a time. When this happens cauterize the base with pulverized sulphate of copper several times then apply oxide of zinc ointment until healed. The location of the growth would suggest rupture (umbilical), but we do not believe that is present.

Wound.—I have a mare about 10 years old that is a little thin, as she raised a mule this summer, and worked most of the time. Her left hind leg has stocked up some whenever she stood on board floor, but it would go down to about the size of the other when running on pasture at night in summer time, and also when she was worked in winter through the day. About three months ago she cut that leg on wire, about three inches below the hock joint in front of leg; cut it pretty nearly to the bone. I doctored it by washing every day and applying carbolic acid and sweet oil in proportion of about 1 to 7; it seemed to grow up nicely until it got the cut full of new flesh, but does not heal over. E. G. CROSLEY.

Wounds of the shin, such as you describe, are always difficult to heal, as the circulation in the part involved is feeble at best, and in this particular case the history shows that circulation has always been impaired The original stocking of the leg in question indicated imperfect circulation of the blood and effusion of serum into the tissues, a common sequence following debilitated conditions and standing upon hard, dry floors. To aid in the healing process we would advise you to give the mare, unless she is in foal, a drachm each of dried sulphate of iron, saltpetre and powdered gentian root twice daily in food, and twice a week a soft bran mash. Carrots would also be good for her. Poultice the wound with hot flax seed meal until all discharge ceases. A search should be made in the wound for diseased tissue or bone, which would have to be removed before healing will take place. When the wound has been thoroughly cleansed as suggested, cover it with a mixture of equal parts of calomel and boracic acid and cover with antiseptic cotton, to be secured in place by a derby bandage snugly applied from foot to under hock. Renew this dressing twice daily and as soon as healing is progressing nicely stop bandaging, etc., and simply wet the part often with a solution of one ounce each of powdered sulphate of copper and sugar of lead shaken up in a pint of water. After poulticing with flax seed meal should there be quite a projection of new granular tissue (so-called proud flesh) apply pulverized sulphate of copper or burnt alum a few times to cut it down before using the powder and cotton. When healing is about complete blister the leg, for a space of three or four inches in every direction from the original wound, using cerate of cantharides for the purpose.

Indigestion. — Let me know what to do with my horse. He sweats very much while working; his hair is rough, his water yellow. I gave him spirits of nitre, but didn't do any good; gave one tablespoonful at a dose. Feed is upland hay and good oats and one meal corn in ears. J. LEM.
Suttons Bay, Mich.

We quite agree with you that it is best not to give a horse medicine to "slick" his coat, when proper feeding and care will have the same effect, if, also, the owner is not too lazy to groom the animal industriously night and morning. In the case of your horse it is evident that he is suffering from chronic indigestion, which may require some medicine as well as good care and food. In the first place, we would advise you to have his teeth attended to by a veterinary dentist, as it is possible he does not properly masticate his food. It is also a good plan to clip horses affected as this one is. The coarse coat of hair seems to induce sweating, which always tends to keep a horse thin. If he is clipped it will, of course, be necessary to keep him blanketed when in the barn or when standing idle during working hours. All food should be of good quality and free from taint or mould. Drinking water should be soft and given before, but not after feeding. If the drinking water on your farm is hard from the presence of lime, then change to soft water if possible. For the present cut the grain ration in half and double the exercise of the horse if he is not being worked. Also see to it that the stable is not warm from lack of fresh aid. Good ventilation and clean stables tend to prevent troubles such as you describe. Give him a lump of rock salt to lick at will and perhaps medicine will be unnecessary after you have followed out above advice, and if you will give him a thorough grooming twice daily, should you not decide to clip him. Twice a week we would give him a bran mash containing half a pint of flax seed or a pint of flax seed meal and carrots would also be excellent could you furnish them. As a last resort, if the animal fails to pick up and look well after this treatment, give him half an ounce of Fowler's solution of arsenic twice daily for two weeks, then gradually discontinue the medicine. Write again later if we can be of further assistance to you in this case.

Indigestion.—Tumor. — 1. I have a horse that is seven years old and always had lots of life and ambition, but about two months ago he lost all his ambition. He is in good shape and I feed him corn and stalks and hay. He has showed signs of stomach staggers two or three times. 2. I have a cow that has a bunch on the side of her head; it is hard and seems to interfere with breathing. F. L. MARAN.
Water Mill, N. Y.

1. The horse is afflicted with chronic indigestion, regarding the treatment of which you will find many answers in recent back numbers of the paper. It will be necessary to change food at once to bran mashes and carrots along with hay, and leave out the corn and stalks. After giving 3 bran mashes without hay, give a physic ball composed of one ounce of freshly powdered Barbadoes aloes, two drachms of ground ginger root and one drachm of fluid extract of belladonna leaves, rubbed up into a thick paste, formed into a cylindrical shape like a piece of candle, wrapped in tissue paper and thrust well back over the root of the tongue, when it will be swallowed. Keep him blanketed while ball is operating; do not exercise nor give much cold water. Feed bran mash until bowels commence moving, then hay alone until manure is normal again. During this time he should be kept in stall. On completion of physicking turn him into a roomy box stall in a clean, well ventilated barn. Clip him if hair is long and coarse and he sweats when driven or worked. Mix in each feed a tablespoonful of a mixture of equal parts powdered wood charcoal, baking soda, ground gentian and ground ginger roots. Add molasses if he will not eat medicated food. Dried blood meal is excellent in such cases. Give drinking water before feeding. Water should be soft. 2. Clip hair from tumor and blister twice a month with cerate of cantharides, one ounce; biniodide of mercury, two drachms; mix. Tie her so she cannot rub part, and see that other cattle do not lick the blister.

Sidebone.—Will you give treatment for sidebone? F. RAPPOLE.
Plessis, N. Y.

Side bone, under the circumstances mentioned by you, usually causes lameness, but you neglect to say whether she is lame or not. Clip hair from coronet between rim of hoof and under part of fetlock joint. Have smith pare away abnormal growth of hoof at sole or walls to get the foot level and as nearly correct shape as possible. Then take a feathering iron, heat it red hot and burn a number of deep lines in hoof from above downwards, passing over the part where sidebone bulges the hoof. The line should also extend up over the sidebone under skin of coronet, but the latter lines should be much shallower than in the hoof. When the lines have been burned in then apply a blister of cerate of cantharides to the coronet and repeat this blistering in two weeks, and again if necessary. The firing of the hoof allows it to spread and so quit pressing tightly upon the sidebone. Blistering encourages growth of new hoof and at same time tends to reduce pain and lameness. A bar shoe should be put on and a semi-circular portion of wall should first be removed at point which would otherwise come in contact with the shoe at the quarters under sidebone.

Paralysis.—Had a mule die this A. M. Fed her half a bundle corn fodder and three ears of corn each meal, three times daily. Seemed well at noon; four o'clock in the afternoon her back parts became powerless; she did not suffer; had use of the rest of body; had no feeling in rump or back legs. Ate her supper and breakfast and drank water. Did not lie down all the way, but sat up most of the time; looked bright and made efforts to rise at intervals. This morning about nine o'clock she fell over dead.
Prospectville, Pa. JOHN F. CHITTICK.

The fact that you fed the mule well, yet did not give exercise or work, is the most probable cause of the paralysis described. When an animal is working or exercised, the effete matters of the blood are thrown off by the skin and other excretory organs; when not working, and fed a full ration, effete matters gather and often cause disturbance or disease. Of such nature is azoturia, which is characterized by paralysis of the hind legs and a coffee color of the urine. If you observed that the urine was of this color then it is certain that the disease was azoturia, and a bad attack, seeing that death followed so promptly. If it were not azoturia and you are sure that mule did not get cast in stall and break her back, then we would suspect that paralysis was due to plugging of an artery, which could neither have been prevented nor cured. The moral of this experience is that you should invariably cut the ration down when a work horse is idle, and see to it that some exercise is given. Azoturia will not occur where idle horses are fed bran mashes and exercised daily. It is very apt to happen where, on the contrary, they are fed the usual ration for even one day when there is no work to do and exercise is not given.

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THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

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Current Comments.

Soy Beans at the North. — Howard Powers, Angola, Ind.—"I was induced to plant a few acres of soy beans; succeeded in raising a fine crop, but failed to find a satisfactory way of harvesting them. I tried my mowing machine and nearly ruined it with gravel, which was ridged up against the plants in cultivating. I cut a few with a scythe, and pulled a lot by hand. Pulling them is out of the question. In this section (Northeastern Indiana), we have good results with Canada field peas, which yield about the same number of bushels to the acre (thirty) as soy beans, require no cultivation, and are one of the easiest crops to harvest with a horse rake, or can be 'hogged down.' I hauled loads of soys, ripe and partly ripe, and scattered them on sod for hogs, but they greatly prefer Canada peas or corn, and do not clean up the beans, so do not think I want to try 'hogging down' soys. Will you please give the comparative value, used as feed, of a bushel of soys and Canada white field peas? If there is any easy method of harvesting soys let us know how it is done. I even took the moldboard off from my plow and tried plowing them out, but quit that. I spent more time in harvesting 5 acres of soys than I did on 20 acres of corn." It is always a mistake to plant any new or untried thing on a 5-acre scale, simply because nobody can be expected to know how to manage a new crop advantageously and successfully in the first trial. Always and invariably begin with a small patch and gradually work up. Harvesting the soys is yet a task which, on account of non-existence of tools made purposely for it, presents some difficulties which in time will be overcome. Soy beans contain nearly 30 per cent. of protein, 23.3 per cent. carbohydrates, and over 14 per cent. fat. Linseed meal (old process) contains 28.8 per cent., 32.8 per cent. and 7.1 per cent. respectively, showing that the former are even a richer food than oil meal, and nearly as rich as cotton seed, or gluten meal. It can take the place of either of these feeds, and is better, being a natural food and not a waste product. Soys also stand very high in regard to their digestibility. People who have fed soy beans whole to cows, say they have never seen a bean that the animals had eaten that escaped mastication, so that there seems to be no particular advantage in grinding them. Yet, if I could raise Canada field peas as easily as is claimed by our Indiana friend, I think I would more largely depend on them for nitrogenous food materials than on the soy bean.

Preserving Tomatoes in Lime.—J. B. Derome, of Quebec, Canada, says he has packed tomatoes in air-slacked lime, and that the experiment was a failure. Possibly, he says, the tomatoes may not have been entirely free from blight, although they seemed to be in good condition when put up. He now asks whether any other subscriber of the P. F. has given us the results of similar experiments. Surely we all would like to know from others who have tried the lime method of keeping tomatoes. If the spores of fungus diseases, especially tomato rot, were already on the tomato when packed in lime. I do not believe that air-slacked lime would save it, and if we are suspicious, in this respect, it might be advisable to dip the tomato into a disinfecting solution before packing it. But the past season was so abnormal, the tomatoes generally so poor, that we should not draw hasty conclusions from a trial made just this particular season. We have had tomatoes, grapes, and other things keep quite well when packed in lime. I, for my part, however, would prefer the freshly slacked lime to air-slacked for this purpose. We shall be pleased to receive reports from readers who have tried the lime packing system with tomatoes or anything else.

Automatic Gate.—G. F. Marsh, Lone Pine, Cal.—"Can you tell me how to make a self-opening and self-shutting gate or door?" A number of arrangements for automatic gates have, I believe been published in the Short Cuts columns, especially in earlier volumes. But it is a fact, nevertheless, that most of these devices are not perfect, and sometimes, when you most depend on them, they fail to work as was expected from them. Who knows of a sure-acting self-opening and self-closing gate, one which will open itself to let a wagon or buggy pass, and close behind the wagon or buggy, simply by the wheel running over an iron rod or something of that sort?

Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Christmas Trees.

I have referred before to what I firmly believe, that there are acres on acres of unproductive land on many farms which could be utilized to grow trees for a profit. Lumber dealers in our large cities tell us they cannot obtain many kinds of lumber they once could. White pine, black walnut and chestnut come to mind as I write. Within a few miles of this city I could take anyone to many a place where acres are now practically idle, which ought to be growing trees. Even chestnut timber is not to be had as it could be but a few years ago; and groves of this and of the walnut would afford some profit from their nuts long before that from their timber came in. It is to call attention to another tree that inspires these notes at this time. Every Christmas sees a great demand for Christmas trees. Rich and poor alike require one. At the present time carload on carload are brought to all large cities from the mountains of this and other States, and all sell until every house is supplied. Now, what I think is this. Much of this trade could be secured by farmers living near large cities who would set out acres of these trees. It may be thought that there would be no sale for such trees, but one may rest assured that all would sell. A nurseryman, a neighbor of mine, tells me that though the streets in proximity to his place of business may be lined with these mountain trees for sale, he can find ready sale for every Christmas tree he has to dispose of; and he averred that he thought farmers were missing it not to grow such trees. In his own case he said his ground was too valuable, being close to the city improvements, and ornamental trees paid him better The Norway spruce is the tree the most called for, he said. Little plants, once transplanted, can be had of 1-foot size at about $10 per hundred, or less. These would be four feet high in four years, and 6 to 8 feet high in six years. Some would sell at four, and after that each year until all were cut out. The plants should be set four feet apart, and then as they became over four feet high every other one cut out and sold. When in the height of growth in summer the side shoots should be pinched off at their ends, to promote bushiness, but not the leading shoot. The ground should be cultivated through the summer. At four feet apart 2,729 plants would be required per acre. The average retail price for such trees in Philadelphia is, for four feet trees, fifty to seventy-five cents; five to six feet, $1; eight feet, $1.50. I think such a crop could be cleared from the ground in six years, at an average retail price of $1 each. The nurseryman already referred to, told me that in former years he had sold many a hundred trees at wholesale for $35 per 100. Such trees should be planted in early spring.

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Horticultural Queries.

Setting Out Orchard. — Am about to set out several hundred Grimes Golden apple grafts, this coming spring, right in the place where they are to stay as an orchard. They are to be whole roots and well branched. Will they not come into bearing sooner than if I set them out in a nursery row and transplant them two years hence to the orchard. How do the caterpillars and cobwebs on my Damsons originate, and how can I exterminate them? J. D. O.
Winchester, Va.

The plan you propose is a very good one; and you will get trees of a good size sooner by it than by setting them elsewhere and transplanting later. Being very small the first year, they will require close watching that no harm comes to them. The caterpillars come from eggs laid in the crotches of the limbs in summer, and you can probably see them now if looked for, if any were laid last year. If you destroy these you will have but little trouble with the pests. If you fail to discover the eggs and the worms come, spray them with Paris green mixture.

Fungus.—You will find enclosed an apple twig that has been stung by some kind of insect. I would like to know what to do to prevent them from damaging the orchard.
Spitler, Va. CHAS. C. WINE.

The twig was received. I cannot see any trace of insect attack. The end is dead, but it appears to me to have been caused by a fungus. I would cut away and burn all dead tips, then spray with Bordeaux mixture, giving the trees a spraying soon, another just before they leaf out and still another one or two doses through the season. Spraying is recommended for healthy trees, as it tends to keep them in that state, and it should be looked on as part of the work an orchard requires yearly

Grape Vines.—When is the best time to trim grape vines, and is it best to trim them almost all away, as some people do? Are bones buried at their roots of much value to the vine? How can one keep the grapes from rotting on the vine?
Port Jervis, N. Y. J. W. PALMER.

Prune your grape vines at once. Any time before winter closes will do, but you had better take the first chance. Keep in mind that the fruit comes on wood made last year, then how to prune is better understood. All the space the vine is to cover should be filled with this new wood. Long canes made last year should be shortened, perhaps one-half, but remember this is the growth the fruit comes on. Many prefer nothing but these young canes. Others let some of the old canes remain, shortening back to two or three eyes the young shoots these old canes made last season. Good crops are had in that way. Where entirely new canes are preferred they are produced by cutting back almost to the ground the old canes of last season. From these the young canes come. The rotting of the fruit can be controlled by spraying with Bordeaux mixture as soon as the fruit forms, and twice more, once in July and again in August.

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Rich and Poor Alike Suffer From Catarrh in This Climate.

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Improved Robbins Potato Planter

POULTRY.

This department is under the editorial charge of A. F. Hunter. All letters, inquiries and requests should be addressed to him at the Practical Farmer office, P. O. Box 1317, Philadelphia.

Cut Fresh Bone Makes Eggs.

The very large profits from poultry are obtained by only a few. This will always be the case, of course. But then it is possible to become one of the comparatively few who are making a large percentage of profit from a flock. It is the duty of every raiser of fowls to make his profits as large as he can, at any rate. Good appliances, good care, good feeding are the means by which big profits, or even average profits, can be obtained. Some breeders are getting an average of 200 eggs from each hen. Such results do not just "happen;" the general average is much under 100 per year from each hen. The hen that lays 50 eggs per year pays her way, but does not yield a profit. The 100-egg hen yields a profit of 100 percent. on the cost of her keep, while the 200-egg hen yields a profit of 300 per cent. How do they do it? Well, there are a great many things that are necessary to bring about such results, and no two of the "200-egg" poultrymen follow just the same methods. They differ about the best kind of houses, about breeds of fowls, about methods of ventilation. Some favor free range. Others do not. Some feed hot mashes in morning, some at noon, some at night; and a growing number never feed any kind of mash, hot nor cold. And they all get results. It's a little remarkable, when you think of it, that with all this difference in methods of care and feeding, the one thing about which the most successful poultrymen agree is the value of cut fresh bone in winter.

But it isn't strange, after all, when it is learned that green bone supplies the same materials that are found by the hen in worms and insects of summer. These are nature's foods If the same results in the way of egg production in winter are desired, similar conditions must be supplied.

The hen doesn't lay because she wants to, but because she has to. If the conditions are right for laying, she will lay. The hen wasn't made to lay eggs in winter for man's use. It is the nature of the hen to lay a few eggs, incubate them and reproduce her kind. The 200-egg hen, just as the 7,000-pound cow, is an artificial product; the non-sitting is also artificial. The poultryman who wants eggs in season and out of season, must lead a somewhat strenuous life; any success he attains will be of his own achieving. He must not blame the old hen, if he doesn't get results.

Now, it doesn't matter whether you call fresh cut bone a natural food or an artificial food, so long as it does the business. If you don't know by practical experience the worth of a bone cutter, and of fresh cut bone, you owe it to yourself to test the thing out, not next winter, but this winter. The first cost of a bone cutter is small. It soon pays for itself in increased egg production, no matter how small the flock may be. It saves on the grain bill. It promotes fertility of the eggs, and, last but not least, it adds 50 to 100 per cent. to the manurial value of the droppings.

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Poultry Queries.

Early Moulting.—Feeding Chicks.—"X. Y. Z.," Hartford, Mich., writes: "Is there a special diet to give hens to make them moult early. In one number of the P. F. a writer said he made his hens moult while his customers were out of town, so as to have them ready to lay by the time they returned. Our hens passed through their first moult last fall, but did not begin before November, and, as a consequence, we have failed to get the eggs we expected. 2nd. Is there danger of forcing young chicks which are wanted for fall layers? What and how much shall I feed from the time they come from the incubator?" The early moulting idea was first published in our Incubator Special, December 21st, 1901. The early moulting is promoted by feeding almost nothing for about two weeks, giving liberal feeds of green food in the time, then commencing to feed liberally of a rather nitrogenous ration, such as adding a feed of sunflower seed, or a doubled quantity of meat meal; this starts the feathers and the fowls have their new suits in a few weeks, and will keep right on laying. If your flock didn't moult until November your ration is weak in nitrogenous food and you should increase the meat meal, beef scraps, or cut fresh bone. If well fed fowls don't wholly stop laying to moult; they continue laying a fourth or third of the number right along. Study the article, "Poultry Feeding," in Dec. 20th P. F. That will tell you how to feed for good results. 2nd. We will have a chicken feeding article in an early number of the P. F.; we had intended such a subject for publication early in March. Yes, there is danger of "forcing" chicks that are wanted for fall layers. Chicks should be fed for growth, should be fed a ration that will build up a good, strong body.

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Sneezing spells sound the need of Jayne's Expectorant.

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10 minutes and cover ¼ acre. Perfectly Automatic, operator merely walks and directs nozzle. Spray from fine mist to solid stream. Any boy can work it. Brass working and contact parts make it perfect working and durable. For poultry houses, vines, trees, etc. Catalog A free. Shows the best line of all size, all purpose sprayers made. Write for agency.
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Charcoal is a remedy that the more you take of it the better; it is not a drug at all, but simply absorbs the gases and impurities always present in the stomach and intestines and carries them out of the system.

Charcoal sweetens the breath after smoking, drinking or after eating onions and other odorous vegetables.

Charcoal effectually clears and improves the complexion, it whitens the teeth and further acts as a natural and eminently safe cathartic.

It absorbs the injurious gases which collect in the stomach and bowels; it disinfects the mouth and throat from the poison of catarrh.

All druggists sell charcoal in one form or another, but probably the best charcoal and the most for the money is in Stuart's Absorbent Lozenges; they are composed of the finest powdered Willow charcoal, and other harmless antiseptics in tablet form or rather in the form of large, pleasant tasting lozenges, the charcoal being mixed with honey.

The daily use of these lozenges will soon tell in a much improved condition of the general health, better complexion, sweeter breath and purer blood, and the beauty of it is, that no possible harm can result from their continued use, but on the contrary, great benefit.

A Buffalo physician in speaking of the benefits of charcoal, says: "I advise Stuart's Absorbent Lozenges to all patients suffering from gas in stomach and bowels, and to clear the complexion and purify the breath, mouth and throat; I also believe the liver is greatly benefited by the daily use of them; they cost but twenty-five cents a box at drug stores, and although in some sense a patent preparation, yet I believe I get more and better charcoal in Stuart's Absorbent Lozenges than in any of the ordinary charcoal tablets."

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PROF. W. F. MASSEY, Editor.

Philadelphia, February 14, 1903

The Appearance of Things.

We always feel encouraged when we get a letter from a farmer who has the business capacity to have a neatly printed letter head, with the name of his farm and the specialties he grows. We know that here is a man who takes some pride in his work and is studying his profession. He may not always be educated to the point of writing the best English, but we always look for ideas from such a man. But when we get a letter, written with a pale lead pencil, on dark, coarse paper that costs about three cents a pad, we feel like throwing it into the waste basket without reading, for it is the invariable mark of a man deep in the ruts and without ambition to get out. Good white paper and pens and ink are so cheap and plentiful that there is no excuse for the pencil and the dark, coarse paper. The farmer who has not faith enough in his business to give his home a name and to advertise what he is doing is badly behind the times.

Meeting of the Pennsylvania Board of Agriculture.

The Editor had the pleasure of meeting the farmers of Pennsylvania at the meeting of the Board of Agriculture at Harrisburg on the 28th and 29th of January. The addresses at this meeting were generally of an intensely practical character. The lecture of Dr. Roberts, of Cornell University, on "Agricultural Education," was a very able effort, and elicited high praise. We have seldom heard a more entertaining and instructive paper on this subject, and the discussion which followed showed the deep interest that had been awakened. The Editor of the P. F. had the rostrum on Thursday morning, and as a matter of course, talked cow peas. We were glad to hear from several farmers in the State that they are succeeding in making heavy crops of forage with the Southern pea, and one man present told us that he has saved, the past season, over forty bushels of the Black pea, thus showing that the Black pea can be successfully grown in this State. Altogether the meeting was one of the most enjoyable affairs of the kind we have ever attended.

Reversion of the Tomato.

Mr. C. A. White, of the Smithsonian Institute, has an article in Science on the "Atavic Mutation of the Tomato," in which he quotes from parties in Cuba and Louisiana, that tomatoes from the North always degenerate there from home-grown seed, and revert to the type of the little Cherry tomato. This tendency to revert to an inferior type in such a composite plant as the modern tomato is not confined to the South, for carelessness in saving the seeds will produce the same result anywhere. If the Southern buyer of Northern seeds uses or sells the earliest and best of the crop, and then saves seed from what are left, he will soon find the plant reverting to an inferior type. But one of the largest and most solid tomatoes came from Mexico, the Mammoth Chihauhau. The problem of the tomato improver was to get this big, solid and crooked tomato inside a smooth skin. This was done, but it is always trying to get out and be big and rough, or smooth and hollow. But with the same care in breeding that is practiced by seed growers in the North, there is no difficulty in keeping tomatoes up to the standard in the South.

Winter Study.

One of the best indications of the great interest that is abroad among the tillers of the soil for more information in regard to their profession, is the way the young and old farmers are crowding into the short winter courses at the agricultural colleges In one college with which we are familiar there are men of mature years, with large families at home, who are spending a month or so in study. These men come with a definite purpose and will go home with new ideas that will act as a nuclei of improvement in their respective neighborhoods In no way can the colleges carry the extension of their work among the men on the farms as through these winter courses. The farmers who take them will not only learn something in regard to their business that will help them in their work, but they will imbibe new notions of the value of a thorough training in agriculture, and will be sending their sons for the full course. In the college mentioned there are now 125 students in agriculture, largely in the four year course, where but two years ago there was but a handful in the same line of work. This shows a great awakening on the subject of agricultural education, and speaks well for the farmers of the State. They are beginning to realize that there is a future in farming that promises as well for intelligent effort as in any other line of human endeavor, and no one can estimate the influence which these 125 men will have in the future development of the State. The interest being aroused, the places of these will be filled, and more than filled, in the future, and the farming of the State will take a leap forward which it could not be induced to do in any other way. These men will go out as leaders in improvement and will shun the old ruts, and the whole business of farming in the State will feel the impulse they give. The time is soon at hand when the States will have to consider the need for colleges that are devoted to agriculture alone. The present association of agriculture, mechanics and engineering is not the best for any of them, and the work of all will be better done when all at the college are enthused with the study of one line of work.

Low Price Not Always Cheap.

Farmers, in buying fertilizers, are too apt to consider the price per ton simply, and fail to examine what the cost may be of the article of value in it. For instance, in a recent bulletin of the New Jersey Station it is shown that potash in a muriate, selling for from $38 to $45 per ton, averaged in cost $4.14 per 100 pounds of actual potash, while in kainit, selling at an average of $12.25 per ton, the cost of potash was $4.80 per 100 pounds, and this does not represent the real difference except right at the seaport where the salts arrive. When a farmer living in the interior freights kainit, with but about 12 per cent. of potash, he is paying freight on 88 per cent. of what is of no value to him, while in freighting muriate he freights 50 per cent. of actual potash. To get the same amount of potash which he would get in a single ton of muriate, he must freight four tons of kainit, in addition to paying more for the potash at the start. He is therefore paying four times as much freight as he need. It is evidently cheaper, then, to pay $40 or more for muriate than $12.25 for kainit, and yet there are men who imagine that the crude salt is cheaper because they have to pay more for the concentrated article. In the purchase of any fertilizer it is the material it has in it that we need that makes up the cost, and we pay varying prices for nitrogen in various substances, while a little study would show us which form of the articles on the market furnishes the nitrogen for the least money. It is not merely the price per ton, but the percentage of valuable material in it that should interest the buyer. In low grade manufactured fertilizers the nitrogen, phosphoric acid and potash are apt to cost more than in high grade and higher priced goods. An article at $30 or more per ton may be, and commonly is, cheaper than one sold for less than $20. Study the percentages of the valuable ingredients in a fertilizer and compare these with the selling price and you will soon find which are the cheaper.

The Soil Survey.

We have received a bulky volume from the Department of Agriculture in Washington, entitled "Field Operations of the Bureau of Soils." It is a finely gotten up book of about 650 pages, abounding in pretty pictures illustrating the character of the country in various sections of the United States as gone over by the so-called Soil Survey. A lot of young men tramp over a certain district and estimate the areas occupied by soils of a certain appearance and texture. They see that the farmers are growing tobacco successfully on a certain soil and they put that down as a typical tobacco soil, and a soil somewhere else that in color resembles this, and is of similar texture, though it may be essentially a different soil, goes into the same type. All over the Southern uplands the red clay soils are classed as Cecil clay, because a clay soil of a similar color is found in Cecil county, Maryland. Therefore, in various sections of the South the soil is called Cecil clay, though we know that in the area of a single field there are several distinct soils in this Cecil clay, and the Cecil clay in one county is a very different article from what is still called Cecil clay in another. So far as any practical value that is to come to the farmers from this so-called survey is concerned, we confess that we cannot see it. The various kinds of soil described were well known to exist there, and the crops to which they are adapted were long ago found out by the farmers, and the soil surveyors themselves found out what the various soils are adapted to, because the farmers had shown them in their cultivation. In the grape district of New York it is stated that the culture began on a certain kind of soil but has developed largely on a soil of a heavier character, and the first soil used is being abandoned for grapes. But the Soil Survey would never have told them this, for the Soil Survey would have known nothing about the adaptability of the heavier soil to grapes had the farmers and grape growers not found it out before. It is possible that some time in the future the surveys may be used as the basis of an accurate study of these soils chemically, and that future generations may find some use for the work. But when these studies are finally made it will be found that many of the soils thought of the same type, are essentially different. What the farmer needs to know is how to treat the soil he has to best advantage. It helps him very little to tell him that his "Cecil" clay is adapted to the crops he has always been growing on it, or that his sandy loam is suited to tobacco but not to something else, and that his "Iredell" clay is a very tough article to manage, for he has found out all these things. What he would like to know is how to manage a farm on which all of these varieties of soils occur in every field, how to strike an average in the treatment of the whole as a farm. He knows that the bottom lands along the streams are better soil than his uplands, and it helps him very little to be told that he has so much bottom, so much red clay and so much sandy soil. He knows that all as well, or better than the "surveyor" who has simply walked over it and guessed at the areas, and then made a parti-colored map of it.

The Cream of the Bulletins.

New Jersey Agricultural Experiment Station, New Brunswick, N. J. Bulletin 162. Lime, Salt and Sulphur Wash. By John B. Smith, Sc. D.

While the fruit growers of California have for years relied entirely on the lime, salt and sulphur wash to keep the San Jose scale in check, the Station workers in the East, as a rule, came to the conclusion years ago that the difference in climate made it less effectual in the East. The fact is, as we believe, that the efficacy of the wash is mainly dependent on the lime and the length of time it can be kept on to suffocate the scale insects. We have had good success with simple whitewash, but this is too simple for the ultra scientific, and we can see no reason why the lime, salt and sulphur wash should not be as effective here as in California. The mixture has the advantage of simple whitewash in the fact that it is a fungicide as well as an insecticide. After numerous efforts to find a reliable remedy for the San Jose scale the orchardists again resorted to the California wash, and some success was had, which stimulated others to try the same mixture. Prof. Smith says that he became familiar with these experiments, visited the orchards when the application was being made in March, and during the summer again visited them, and he found that the results in nearly all cases were unqualifiedly good. While there were living scales in the spring they did not breed, and generally became less as the season advanced. The action of the wash was continuous to a remarkable extent, even after only a trace of it remained. In one orchard where there were plenty of scales in June there were none in October. The conclusion arrived at from the results in New Jersey is that there is no doubt that for ordinarily infested trees, the lime, salt and sulphur wash is as effective a remedy as any we have. The wonder is that the entomologists have been so long finding it out, and that the newly awakened interest in it was caused by the experiments of the orchard men themselves. It seems that on very scaly trees, where the scales lie one above another some are apt to escape. But when trees have been allowed to get so badly infested as that, the best thing to do is to cut them down and burn them. There has been some conflicting experience among the entomologists, but, as Prof. Smith says, no more than with the crude kerosene wash. Prof. Forbes had perfect results under all weather conditions, in Illinois, and he is convinced that the lime, salt and sulphur wash is as nearly a perfect remedial measure against the San Jose scale insect as we can hope to attain. In some cases it was thought that the ends of peach twigs were injured by the wash. Prof. Smith did not notice anything of the sort in New Jersey, but advises against too thick a coating. The formula used in New Jersey was as follows: Stone lime, 50 pounds; flowers of sulphur, 50 pounds; stock salt, 50 pounds; water, 150 gallons. Slack the lime with hot water thoroughly, add the sulphur, stir well and boil for at least an hour, adding water as necessary. Then add the salt and boil at least 15 minutes more and dilute to make 150 gallons. In boiling use no more water than necessary to make a fluid mass. Strain through a gunny sack and apply hot. Some operators replaced the salt with four and one-sixth pounds of blue vitriol, dissolved in hot water and added slowly to the boiling lime and sulphur. Prof. Forbes thinks the blue vitriol makes the wash more promptly efficient. Others do not think salt adds anything of value, but makes the mixture stick better. Thorough boiling and using hot are important. The average cost of the wash is one and a half cents per gallon. The prepared mixture is on the market and is reported to be good. It is sold under the trade name of "Calcothion."

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Expired Subscriptions.

If any of our friends whose subscriptions expired in January, and who failed to renew, are still receiving the P. F., we would be glad to have them notify us. Through oversight, some of these names may be on our mailing list, notwithstanding our desire that all expired subscriptions should be promptly discontinued.

February Subscriptions.

We hope every friend whose subscription expires this month will be prompt in sending renewal of the same. Better still, get five of your neighbors to join in and send a club of six, costing only $3 for the six names, thus securing a choice of any one of thirteen good premiums for yourself. Such a club would be a valentine that the publishers would appreciate.

COMMERCIAL

Philadelphia, Feb. 7, 1903.

WHEAT.—			
No. 2, red	79	@	79½
No. 2, Penna. and Del.	80	@	80½
CORN.—			

Export demand was light and the market declined 1@1¼c. under more liberal offerings.

No. 2, Mixed	52¼	@	52½
OATS.—			

Trade in car lots was quiet, but prices ruled firm under light offerings.

No. 2, white clipped	43		
BUTTER.—			
Best prints	27	@	28
Firsts, creamery	26		
Seconds, creamery	24	@	25
Ladle packed	17	@	20
CHEESE.—			
Full cream, choice, small	14	@	14¼
Full cream, fair to good	13½	@	13¾
Part skims	10	@	12
LIVE POULTRY.—			

Small supply and steady, with fair demand.

Fowls, choice, per lb.	13½		
Spring chickens, per lb.	12½	@	13½
Ducks, per lb.	14	@	15
Geese, per lb.	12	@	14
Turkeys, per lb.	14	@	15
DRESSED POULTRY.—			
Fowls, per lb.	12	@	15
Chickens, per lb.	12	@	15
Turkeys, per lb.	17	@	21
Ducks, per lb.	16	@	20
Geese, per lb.	11	@	13
EGGS.—			
Nearby fresh, at mark	23		
Western, choice	20	@	22
FRESH FRUITS.—			
Apples, per bbl.	1.50	@	3.50
Cranberries, Cape Cod, bbl.	11.00	@	12.00
Cranberries, Jersey, crate	3.00	@	3.50
Oranges, Fla., per box	3.00	@	3.50
Grape fruit, Fla., per box	3.00	@	6.00
VEGETABLES.—			
White potatoes, Pa., per bu.	65	@	68
White potatoes, West., bu.	60	@	63
Sweet potatoes, Jer., bas.	50	@	60
Cabbage, per ton	6.00	@	8.00
Onions, per bbl.	1.50	@	1.75
BEANS AND PEAS.—			

Trade was quiet, but offerings were moderate and prices ruled steady.

Marrows, H. P., per bu.	2.70		
Pea beans, H. P., per bu.	2.35		
Red kidneys, per bu.	3.00		
Green peas, per bu.	1.65	@	1.70
Scotch Peas, per bu.	1.70	@	1.75
HAY AND STRAW.—			
Timothy, choice, large bales	19.00	@	19.50
Straw, straight rye	16.00	@	17.50
Straw, tangled	12.00	@	13.50
Wheat	10.50	@	12.00
Oat	10.00	@	12.00
FEED.—			

Small supply and firm, with a fair demand.

Bran, bulk, winter, per ton	20.00	@	21.00
Bran, sacked, spring	20.00	@	21.00
COTTON.—			
Middling upland, cwt.	9.00		

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants 2934 Market Street.

Beef cattle about steady.

Extra steers	5¼		
Good steers	4½	@	5
Medium steers	4¼	@	4½
Common steers	4	@	4¼
CALVES.—			

Veal calves, prime stock, about steady.

Extra calves	8¾	@	9¼
Fair to good	7	@	8½
Poor and common	5½	@	6½
Grassers	3½	@	5
HOGS.—			

Hogs steady.

Fat hogs, Pa., Del. & Md.	7	@	8¾
Fat hogs, Western	9	@	9½
SHEEP.—			

Sheep and lambs steady.

Sheep, extra wethers	4¾	@	5
Sheep, good	4¼	@	4¾
Sheep, medium	3½	@	4
Sheep, common	2½	@	3
Lambs	4½	@	6½

New York, Feb. 7, 1903.

WHEAT.—			
No. 2, red	82	@	82¾
No. 1, Northern Duluth	89⅝		
CORN.—			
No. 2	61		
No. 2, white and yellow	56½	@	58
OATS.—			
No. 2, white	44¼		
HAY.—			
Prime, large bales, 100 lbs.	1.05		
BUTTER.—			
Creamery, extra	26		
Creamery, firsts	24	@	25
Creamery, seconds	22	@	23
State dairy, tubs, fancy	24½	@	25
CHEESE.—			
Full cream, small	14	@	14¼
Full cream, choice	13½	@	13¾
Light skims, small, choice	12½	@	12¾
Light skims, large, choice	11½	@	12
LIVE POULTRY.—			
Ducks, per pair	80	@	1.00
Geese, per pair	1.50	@	1.87
Fowls, heavyweights, per lb.	14		
Turkeys, per lb.	13	@	14
DRESSED POULTRY.—			
Spring turkeys, per lb.	17	@	19
Spring chickens, per lb.	16	@	25
Spring geese, per lb.	10	@	12½
Fowls, good to prime, per lb.	12	@	14
Squabs, poor to prime, doz.	2.00	@	3.75
EGGS.—			
State and nearby	22	@	25
Western	21	@	23
GREEN FRUITS.—			
Apples, per bbl.	1.50	@	4.00
Cranberries, per bbl.	10.00	@	12.00
Cranberries, per crate	2.50	@	2.95
Oranges, Cal., per box	2.00	@	3.00
Oranges, Florida, per box	2.50	@	4.50
Strawberries, Fla., per qt.	20	@	35
POTATOES AND VEGETABLES.—			
Potatoes, Jer. per bbl.	1.75	@	2.00
Penna. & Western, 180 lbs.	1.75	@	1.95
Sweet potatoes, per bbl.	3.00	@	3.75
Celery, State, doz. bun.	20	@	50
Celery, California, doz. bun.	65	@	75
Onions, per bbl.	1.50	@	5.00
Cauliflowers, Cal., crate	2.00	@	2.50
Turnips, Russia, per bbl.	80	@	90
Spinach, per bbl.	1.00	@	1.25

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OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.	
XX and above	30@32
X	28@29
Medium	30@32
Quarter blood	30@31
Common	26@28
UNWASHED (light and bright.)	
Fine	19@22
Medium	22@23
Quarter blood	22@23
Coarse	20@21
UNWASHED (dark colored.)	
Fine	16@17
Fine medium	17@19
Medium and quarter	19@20
Coarse	17@18
COMBING AND DELAINE FLEECES.	
Washed fine Delaine	33@34
Washed medium	30@32
Washed low	30@31
Washed coarse	27@28
Unwashed medium	23@25
Unwashed quarter blood	23@25
Braid	21@22

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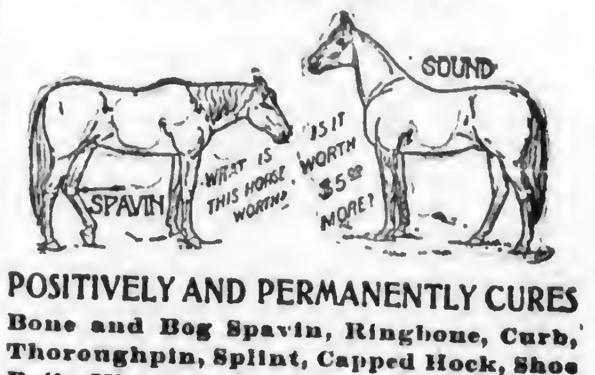
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The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Prize Offer.

One dollar each for the best four articles on either poultry raising, fruit raising, market gardening or spring care of horses, that reaches our desk before March 14, 1903. In treating of the first subject, give experience in both natural and artificial incubation. We want facts and figures. The second subject refers to small fruit. Under the third heading give us hints for hotbeds and the like; also figures that show the actual profit of market gardening. The fourth subject is one of vital importance. Change from winter fare, winter quarters and stand-still experience to the rush and weariness of the spring work is a crisis in the life of every farm animal. Give us intelligent notes along this line. Let no article, on any subject, exceed five hundred words. Let all enter this little competition, not for the small prizes, but for the good we may do.

Editorial Chat.

Ellen Kinney would be grateful to the Georgia young lady, who sent her some plants, if she would again send name and address. She regrets having misplaced the letter. We desire to personally thank all the kind friends who are responding to the call to "scatter sunshine" along Miss Kinney's darkened path. Among the many Christmas tokens sent her, was a branch of a Christmas tree from Colorado. There were the colored candles, other decorations and gifts attached. A most unique idea! And away from Texas came a box of pretty things, and so it goes. Ellen is very anxious to help in this sunshine business, too, evidently having taken the motto to heart: "Pass it on." She is failing in health, but if she persists in her desires we will open a way for her in the near future, feeling sure of the hearty co-operation of the H. C. sisters.

* * *

In reply to "A Reader of the P. F.," will say the author of article mentioned was Miss Kate West, Viola, Wis. Address her, with stamp, for information desired.

* * *

Mrs. G. R. Hunt, Paradise, Texas, asks someone to give their experience in having rugs made from old ingrain carpet by the process of cutting into strips and weaving.

Among the Flowers.

MARY L. GARNER.

I shouldn't wonder if the housewife who has not a sunny window for plants is not a little discouraged over so much chat about the numberless plants which thrive best in the sunlight. But she needn't despair, for there are quite a variety of plants which grow vigorously in sunless windows, and do not require any more care than other kinds. To succeed, some thought must be given to their needs, not trusting to luck, but, rather adopting the policy of Mrs. Mulligan, viz.: "I just thries to foind out what the craters want, and thin give it to thim." One prominent author on floriculture attributes the many failures to the improper condition of temperature and moisture; the soil, and vigor of the plants when potted being only secondary considerations. There are many flowering plants which will thrive in a sunless window, but one must choose those bearing either white or light-colored blossoms, as those of richly colored bloom require strong sunlight in addition to other proper conditions, to bring them to a state of perfection. The primula, or Chinese primrose, is a fine plant, and likes a woodsy soil, partial or complete shade, and is very easy to grow. It will stand a very warm, moderate or cool temperature, but must not be subjected to sudden changes. One important fact, which must not be overlooked, is to place the crown of the plant an inch or two higher than the soil at the sides of the pot, thereby making the soil slope away from the centre, so that when water is applied to the plant it will not stand about the crown. The different varieties of the calla, with their luxuriant leaves, make an ideal addition to this collection, even when not bearing any so-called flowers. We are told that they must be rested during the months of July and August by turning the pots on their sides in the shade (preferably the north side of a building), and, if the leaves show signs of needed rest by turning yellow, then rest them by all means. But I have almost sacrificed two fine plants by repeated attempts to force them to rest at that period, and now I rest them only when they show by their leaves that they are ready for it, if that is in one year or two, in summer or winter. If rested in winter they must be kept from freezing. While growing, the calla must be watered quite liberally with water heated to one hundred and thirty degrees, for it is a semi-aquatic plant, a native of the river Nile, where it grows with its roots submerged in the warm water. Few of the dark kinds of fuchsia will bloom in winter, but Fuchsia Speciosa, with its flesh-white and rose-colored flowers, is indeed beautiful. Keep it from blooming in summer and give it a sandy loam and frequent showerings. Of begonias, we have the Argentea Guttata and Olbia with its bronze green leaves. Even the common white petunia makes an ideal plant for a sunless window. Give it a moderately rich soil and an occasional bath to keep its foliage clean. And last, but not the most insignificant by any means, is the white Roman hyacinth, which is grown according to instructions for all Holland bulbs. Of plants grown for their foliage there are a number to choose from. Palms and ferns are not so hard to grow as some may think, but often the mistake is made of using too large a pot. A deep pot should be used, some florists ordering a special shape for palms. Great care should be taken in re-potting palms not to disturb the centre root. Neither do they need re-potting every year. Instead, remove the soil from the top and sides of the pot and fill in with fresh soil, being careful not to disturb any of the roots. The leaves of the palm should be kept free from dust by frequent showerings with water, and the soil should be moist at all times, but never wet and never allowed to become dry. The Sword fern is a very graceful plant, but does best when the pot containing it is placed within another larger one, or jardiniere, and the outer vessel kept half filled with water, allowing the roots to take up the moisture from the bottom. The foliage must be sprayed often as this plant does best in a moist atmosphere. Quite a good deal has been said by the florists' catalogues, of late years, of Asparagus Sprengeri and Asparagus Plumosa, with their misty, lace-like foliage, a rival to the smilax. It will grow almost anywhere but is partial to shade, and requires a rich, sandy soil and frequent showerings. Sanseveria is another fine decorative plant and will stand any condition or treatment except too low a temperature. It grows long, succulent, sword-like leaves slightly resembling the agave.

Lyndale, Ind.

Children's Dresses.

R. E. MERRYMAN.

Never was Dame Fashion more lenient in her decrees concerning children's dresses, and the mother of today may consider herself blessed in being free to choose light or dark colors, and heavy or soft fabrics for the little frocks and coats, with the full assurance that, if a few leading points are observed in the making of the garments, the wee tots will be smartly and fashionably clad.

For the best frocks light colors are preferred, and this is really an economical fashion, although some old-time dame may shake her head and suggest that "light colors show dirt amazin' quick." The dainty Lansdowne, albatross and veilings are lovely in white and delicate shades, for the pink-cheeked darlings, and everyone knows the pretty and durable henrietta and cashmere. There are various ways of cleaning these fabrics when slightly soiled, and even when they get to that stage where nothing but washing will redeem them, they may still be made quite presentable for second best by using only the best white soap and borax in soft water, and being careful to squeeze the dirt out instead of rubbing the goods. When the dress has been worn and soiled the second time it is well to change it to a "new dress" by coloring it with Diamond dyes. If white at first, it is well to use a light blue or pink dye, as that will leave it still light and dainty, with a chance for a second change later by using the red or blue Diamond dye, which gives a beautiful color, and one that is perfectly fast. The addition of new trimmings will change the dress entirely and make it in reality as good as new. Last year's coats may be colored to do duty for the next smaller child, and there will not be in the child's mind that disagreeable feeling of having to wear the cast off clothing of the older ones. The pouched front to the waist and the bishop sleeve, with its puff at the back where it gathers into the wristband, are features of the children's styles this winter, and although it may be, as has been said, "aping the fashions of their elders," the effect is equally as good as on larger dresses, and the little tots look very cute in their stylish outfits.

Melrose, Fla.

Our Book Table.

LAURA GOLDEN.

"Of making many books there is no end," wrote King Solomon centuries ago, and it is truer today than ever before. It is bewildering to think of the thousands of new books that are published every year, and the pity of it is, that so many are perfectly worthless. Everybody reads nowadays, but everybody does not read wisely or well. If they did, there would not be such a lot of trash published. But most people care only to be amused, and do not read for improvement, so the books that would prove a lasting pleasure, because they may be read and re-read with zest, are passed over, and the latest novel, damp from the press, be it good, bad or indifferent, is eagerly seized and devoured, so as to be ready for the next one.

It is not well to form the novel-reading habit and read nothing but fiction, even though it be the best. There are so many other classes of books that are worth while, and after one begins to read them, a diet of novels exclusively is apt to become tasteless.

Who reads biography? Yet there are biographies of men and women as intensely interesting as any novel that ever was written. Read the "Life of Charlotte Bronte," Mrs. Gaskell; "The Making of an American," by Jacob Riis, and "Up from Slavery," by Booker T. Washington, and see if the most sensational novel does not seem tame in comparison. The nature books by John Borroughs, Seton-Thompson, Henry Thoreau, Torry Bradford and others, are very interesting, and they will be apt to start us on a quest to find out things for ourselves.

Books of travel make another delightful class. With Anna Bowman Dodd, in "Cathedral Days," we may visit the world-renowned cathedrals in Southern England, and sit "Under a White Umbrella" in Mexico, with F. Hopkinson Smith. We may ramble through "An Old Town by the Sea" with Thomas Bailey Aldrich, and wander "Through Old New York" with Thomas A. Janiver. In short, there is no end to the journeys we may take, when once we begin to travel by the means of books. Then there is poetry. Surely one cannot afford to ignore this noble class of books. The poems of Lowell, Whittier, Longfellow, Aldrich, Cary Sisters, Lucy Larcom, Helen Hunt, Tennyson, Browning, Coleridge, Burns, Wordsworth, Mrs. Browning and Jean Ingelow deserve a place in the front rank of good reading. That we will like all the poems of any writer is not to be expected, but we will come across bits of verse in the different volumes that will appeal to us and find a responsive chord in our hearts.

Many persons who are very particular with whom they associate, are very lax about the books they read. They do not seem to realize that bad books will undermine their principles and lower their moral tone as surely as evil companions. By reading the best books our minds will become well filled treasure-houses, which will prove a solace in time of trouble and sorrow, and the fact that we have not read the latest popular novel will not make us ashamed or cause us to worry.

[Your most excellent hints come to us with double force, as they are almost verbatim (exact in sentiment) those of a lady with whom we were conversing yesterday. To say the best one can for ninety-five out of every hundred novels published, they are thin. In one hundred years from now only the meritorious ones will be known. Time does the sifting, so perhaps it were wiser to read more of the works that have come down to us through the sifting process. The advice to parents to direct the reading of their children has been repeated until we deem it "hackneyed," but if only it was taken for the vital truth it is, how much better for all concerned. Get the children interested in all sorts of history and they will soon see that truth is indeed stranger than fiction and more delightful.—ED.]

Condensed Items.

MRS. J. W. PAGE.

Lovers of onions should try them scalloped. Slice the onions, parboil, drain and place a layer in bottom of baking dish; add salt, pepper and butter, then a layer of cracker crumbs, then another layer of onions, and so on until all the onions are used. Cover with milk and bake. Use baking soda to clean graniteware which has become sooty or discolored. Try covering the kitchen table with zinc, on which hot dishes or kettles can be set, and which requires no scrubbing.

To keep wooden tubs from leaking, try turning them upside down on something level and filling the bottoms with water. This takes less water and time than to fill them full, and does just as well if care is taken to keep the bottoms well filled.

Utilize the 5-pound sugar sacks by sewing six together, hemming and using for dish towels, or make doilies by fringing out an inch, doing a border of drawn work and bleaching. As flies are apt to settle on the kitchen screen door in summer, and fly in every time the door is opened, try placing paper flour sacks, cut in inch strips, at top of door, then shaking the door each time it is opened helps to keep the flies from entering the house. Those suffering with cold feet should try wearing bed slippers made of gray elderdown, cut the size and shape of stocking worn, and to come about 4 inches above the ankle. Put an elastic around the ankle, and above that, line with blue elderdown, or some pretty colored outing flannel. Add bows of ribbon, or cord and tassels where the elastic is joined in front. These make acceptable Christmas gifts.

Save all the good parts of old woolen skirts, shirt waists, dresses, etc., wash, press and lay away, and when the children want "something to do," let them cut the pieces into blocks, using old postal cards as a pattern. These you can stitch together on the machine, line with gray outing flannel and you will have a good, warm comfort, which can easily be washed.

North East, Pa.

Correspondence.

Mrs. S. E. Kennedy, Moosup Valley, R. I., writes: Our Editor asked us a few weeks ago to write something that we had learned during the past few months. I wondered if she referred wholly to new and better ways of doing our housework alone, or whether she might not allow us to speak of even the more practical side of our lives—that which relates to the heart lessons? We all hesitate to do this, because we feel it to be a sign of weakness to allow strangers, or even our nearest friends, to look into the heart chambers, preferring to keep them barred and bolted, as we do the outside doors of our houses at night, in a tramp-infested region. But this is not wise. If we were less reticent in our families we should be better able to help each other, because we should know where help was needed. If one were willing to speak more freely in the H. C. of our "practical paper," we might learn sometimes, from another's experience, to shun, or to follow, as the case might be. The most helpful thing that I, as a wife and mother, have learned this year, is a deep heart lesson which, if I consulted the natural pride of a human heart, I should certainly keep to myself. From youth, I might almost say from childhood, I have been conscious of a painful degree of sensitiveness to the words and acts of others in regard to their treatment of this important little personage—myself. And the more so because my health has always been a matter of solicitude to all who love me. Eight years ago I spent one whole year in bed and in the easy chair, which necessitated my being waited upon like a child. This work of love was performed by my husband and two young daughters, and, under God, I believe that it is owing to their unremitting care that I am today in the enjoyment of comparative health. They say they spoiled me, that having to be babied so long, that now I think I must have it. I do not think so. I think that sensitiveness (selfishness) is inherent. I think having cultivated it for so many years, that now it is indeed a matter of great importance whether my interests are put first or second. Now, sisters of the H. C., please do not turn the cold shoulder upon me. I am not so different from yourselves. The difference lies in the fact that your eyes are not opened. I am certain that not one of you more willingly, gladly spend and be spent for your loved ones than I do. If I know my own heart, it is of them, for them and because of them that I am so thankful to the Heavenly Father for sparing my life. What then? Just this. I feel certain that during this past year my eyes have been opened to the fact that the very best way in which I can help these same loved ones is by always carrying a cheerful countenance, and never, under any circumstances, allowing them to see that I think they have not said or done the best thing by me. In the words of Andrew Murray, "Let the gentleness that refuses to take offense, that is always ready to excuse, to think and hope the best, mark our intercourse with all." It is the more reasonable that I do this than for the average wife and mother, because I know that my loved ones never intended to hurt. Can that be said of every family? I know I am speaking the truth when I say it of mine. Is not, then, my resolve the most practical of home doings? Is washing, and making, and baking as much so? Look into your hearts, my sisters; it is possible, even probable, that you may find there germs at least, of selfishness, which you have cherished under the honorable name of sensitiveness.

Mrs. Hattie Peacock, Gardiner, Me., writes: As I have the very best behaved and most contented child I have ever seen, I feel competent to advise others by telling them how I am raising her. I do by her as I would be done by, under the same circumstances, as far as I can understand. We are neither of us very strong; she has a weak stomach, and I have never been robust, so none need say: "Oh, well, if she had had a sickly baby, or had not been well she wouldn't have so much to boast of." Ruth was not born with wings, and I'm quick tempered, so we have to use a good deal of common sense and sentiment, and need a keen sense of humor, with a seasoning of patience. I would not let lack of time stand in the way of bringing my child up properly, and I would not turn her on the street. She has never had any playmates excepting her father, myself and a cat or kitten. Her playthings are hammer and nails, a ball, scissors and paper. She also has five dolls, a carriage and a doll's bed, besides a harmonica. A poor showing compared with the average 3-year-old's playthings, but Ruth is contented and happy. First, when she got over her sleepy time, which was at about three months, I hung soft colors on the wall at an easy distance from her when she laid on the bed; and instead of being taken up each time she woke, she would lie and look at the bright cloths. Of course, I changed them often enough so they would not tire her eyes. I also turned her from one side to the other. At five months her only plaything was a rubber ring, and as she grew older she had a rattle, and her first Christmas her grandmother gave her a knitted doll. She was at that time about seven and a half months old. To amuse her we would blow a feather for her to catch, or give her a string for the kitten to catch and play with. We always had to keep her quiet, because she was, and is, exceedingly nervous, which was another drawback. She has never been taught anything only as she sees things and asks questions. A child's mind at birth is a blank, and when one realizes how much it learns the first seven years, it seems wonderful that it can learn when sent to school before that age. A child should learn as much or little as he pleases the first eight years, because in those years his brain gets its growth. I don't think I could go to a foreign country and learn the language, customs, etc., in three years as well as my child has learned ours. She uses a large number of words, knows everything about the house and barn, knows her letters and lots of other things. I never made her try to walk until she tried herself. She learned in less than two weeks to walk as well as she can now, and everyone says she is very straight. Children should not be pushed ahead; let them alone and they will learn enough, even if they appear backward at first. To strengthen her memory, we ask her, when she returns from any place, what she has seen, heard and done, and where she has been. When we have anything on the table that she may not eat, I won't eat it before her; I either go without it or eat it when she is not around. When she has a thing I don't want her to have, I don't snatch it away; I give her something else she can have. It saves a quarrel and her disposition. I don't think it does a child any good to see its mother frightened, and for that reason think mothers should try to control themselves if they are naturally nervous. I do not write of something I know nothing about. I am nervous myself and have keenest sympathy for others so afflicted. I cultivate her natural liking for flowers and music, and when she gets older I shall first read the books she is to read. People, especially girls, should not read romances until they are old enough to read them sensibly and not let such things influence them. She used to have slight attacks of colic, which might have been worse, but I stopped them by attending to her when the spells first came on. First I gave her a few teaspoonfuls of clear water as warm as she could take it; then took equal parts of laudanum and warm water and rubbed the abdomen, after which I turned her over on her face, holding one hand under her head and rubbed her back from the waist down. The water starts the wind or gas in the child's stomach and bowels; the laudanum eases the pain, while brisk rubbing causes the wind to pass from the bowels. Holding the baby's feet towards a warm oven helps matters. I kept a band on my baby for the first two years, as I think it strengthened her back and made her stomach and bowels stronger. If it is necessary to do deceitful things or tell untruths, don't let the children know it, not only because a child will ape you, but because a child soon loses respect for people who are false, and a child can distinguish the truth every time. Teach them to be fearless but not bold. For instance, my daughter broke one of my plates, of which I was particularly fond. I said, "Do you see that plate?" She said quite calmly, "Yes, mamma." It was done and could not be helped, so there would have been no sense in hurting her for it. Children should be taught, not made to mind; their wills should be trained, not broken. Start the first one right and the others will mind and act better than if one tries to "boss" half a dozen around at once. It is easier to take them one at a time than all at once. If a child is kept from harm and kept from learning to tell untruths the first seven years, the truth gets pretty well founded and he will not listen to or do some things as quickly as if he had played with other children and learned their ways. I never try to teach Ruth to be "polite." I use her as I wish her to use me. Did you ever stop to think how idiotic "yes'm" sounds? I don't think I would call anyone "'m" when I have occasion to speak to her. I like the "Yes, mamma," or "Yes, Mrs. Dill," and it sounds better than "Yes'm" and "'Yes, madam." sounds a trifle formal. A child is what its mother or father would be under the same circumstances without the same advantages, education, training, etc.

Mrs. Nan J. Wright, Chambersburg, Ind., writes: Well, well, we think Mrs. Maggie Adams, of Texas, is a little off on some things in the Jan. 3rd issue of the P. F. We do not ask husband to work in the house in the mornings when he has a long, hard day's work to do in the field, and chores to do about the barn. I have rocking chairs, too, but never think of taking one into the kitchen, and really think a woman deficient some way who would. I also use kerosene, Rub-no-More and washing machine, and save all the rubbing. One of the boys, or one of the little girls uses the machine while I do other work. I polish my stove, principally for looks, and keep it looking bright daily by rubbing over with greasy dishcloth after washing dishes. Our kitchen garden is made profitable by being made fertile and being well cultivated. We sell the surplus onions, potatoes, beans, turnips, etc., and have an abundance for the table. Try sprinkling lime on cucumber and squash vines while dew is on, to keep off bugs. It saved my vines last summer. Yes, we are looking for conveniences in the kitchen, but should never think of wearing a lace cap there. We wear a nice, clean calico bonnet when we wear anything on the head. We are poor, too, and feel more like assisting our husband in his long rounds of arduous duties than imposing part of ours upon him. We feel that if we sit in the rocking chair and do not do our part, we will never be any better off than we are now. But as this is our first, we will close and wait to see if it escapes the waste basket.

[O. sister, you are too energetic altogether; but mind, like the deacon's shay, you'll go all to pieces at once. Even a woman needs to save herself some; but go ahead if you like: make all the money you can; the sooner you are gone the sooner the second Mrs. Wright will come into lawful possession. And as to the rocking chair in the kitchen, we would put one there fast enough if we had a place big enough to spare. But then, we do not mind shirking a little.—ED.]

Youth's Parliament.

Mabel Hofford, La Fayette, Ind., writes: Dear Mrs. Melville: I have thought for some time I would join the Golden Rule Band of Mercy, so I will now write. I am a girl 13 years of age. Papa has taken the P. F. for two years and thinks it very nice. I have four sisters and three brothers. I promise to be kind to all living creatures and try to protect them from cruel usage.

Vera V. Williams, Utahville, Pa., writes: I will now write a few lines to the Y. P. Papa has taken the P. F. for about 13 years, and how we do enjoy it. We have four horses and the same number of cows, and a pet cat, "Dewey." I am twelve years of age, and I like to read the H. C. and Y. P. I live on a farm, and go to school, which is very close to our farm. I wish more would write to the Y. P. I like to read "In the Kitchen." I wrote a letter before but it was not sent to the P. O. I have a nice big dog, "Watch." I have one brother older than I and a sister and brother younger.

Marshall Redmond, Juno, N. C., writes: Dear Mrs. Melville: I am a little boy eleven years old. I live in Buncombe Co., seven miles from the city of Asheville and one mile from the railroad which runs alongside the beautiful French Broad River. I study geography, history, physiology, arithmetic and spelling. I have a horse, cow, three Maltese cats, two calves, two pigs and one dog for my pets. I help mamma cook, wash dishes, sweep and milk, and help father haul wood and go to mill. I have one sister older and three brothers younger than myself. Mamma takes the P. F. and we all like it. I can say all the books of the Old Testament from memory. I would like to know how many P. F. children can say all the books in the Bible.

[Come again, Marshall. We hope you are a Band of Mercy boy.—ED.]

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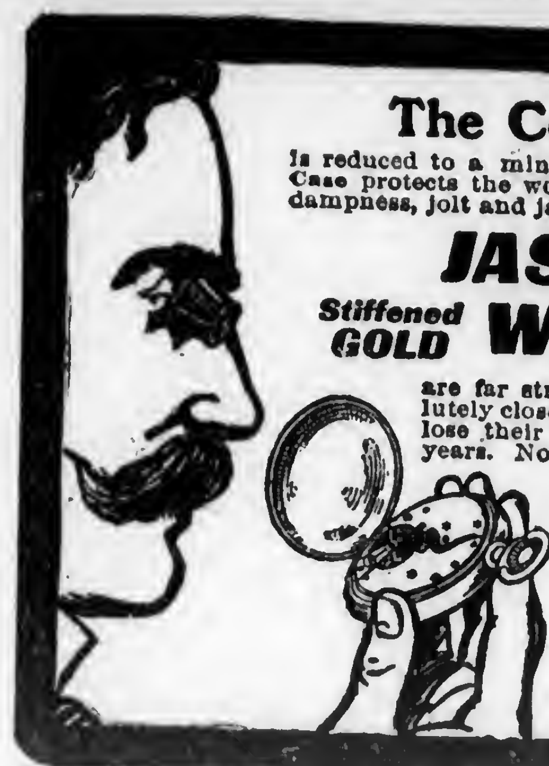
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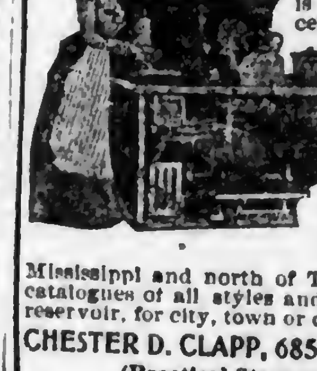
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Topic No. 561, Feb. 28.—*Have You Adopted Any Systematic Method of Improving Your Seed Corn? If so, How and With What Success?*

Topic No. 562, March 7.—*Have You Raised Good Calves Without Milk? If so, How?*

Topic No. 563, March 14.—*What Varieties of Pears Have You Found Most Profitable, and How do You Cultivate and Pack for Market? Have Dwarf Trees Been Profitable?*

Topic No. 564, March 21.—*For the Ladies. How do You Make the Washing of Dishes, Pots and Pans Easier and not at the Expense of Time and Cleanliness?*

Topic No. 565, March 28.—*Have You Ever Tried Flat Culture with Cotton, and What is the Best Distance to Thin in the Rows and Between the Rows?*

Topic No. 566, April 4.—*How Do You Raise Turkeys, and What Breed is Best?*

Topic No. 559.—How are Farmers' Institutes Managed in Your Section, and in What Way do You Think They Can be Improved and Made More Helpful to the Farmers?

M. N. Edgerton, Petoskey, Mich. — Our Farmers' Institutes are conducted jointly by the State and county societies. The State society furnishes several speakers, one of which is usually from our State Agricultural College, and one a lady speaker. The local society fills up the remainder of the program with home talent. Now, we have no wish to pose as a critic, but believe we see where these Institutes might be improved upon somewhat. In our opinion there is too much crowded upon the program, hence there is not enough time to go over any one subject thoroughly. This is more particularly true in regard to the time allowed for the discussions. There should be plenty of time given in which the farmers present may "pump" the State speakers "dry." But a half hour is allowed for discussions, and sometimes this half hour is divided between two subjects. Sometimes parties are put on the program, either as speakers or to lend in discussions, without their consent; perhaps the parties are not interested enough to attend the Institute, nor farmers' clubs, even. The object of placing such men on the program may be to draw them out, but it is a very poor business policy in our estimation. In the selection of the officers, too, we believe that more care should be exercised, so that only wide-awake farmers, and thoroughly go-ahead fellows should be chosen, and there should be at least one in the list of those chosen who has had previous experience in getting up Institutes. These Institutes could be made more helpful to the farmers if each reader of the P. F. would make it a point to always get out to these Institutes, and try and induce their neighbors to attend.

L. C. Griffith, Bessville, Mo.—Our Farmers' Institutes are under the management of the State Board of Agriculture, and the dates published in circulars and local papers. We have an able force of lecturers, who really know what they are talking about, and so make it interesting and instructive. We usually have a local committee, who do little except engage someone to keep fires in the court room, where meetings are held. The attendance is so small that the maximum benefit is impossible. This year there was only one lecture, and my sister and I missed that on account of a slight "smash-up" on the road. The exhibit car which contained the magic lantern, etc., samples of seeds and feeding stuffs, forage plants, weeds and fertilizers, failed to arrive. They were to illustrate the lectures. The greatest improvement to be made here is to get an audience; the others will follow. The ladies seem to think themselves out of place at a Farmers' Institute here. At previous meetings we have had good exhibits of apples, corn, dried fruit, melons, etc.

W. R. English, Rome, Ky.—We had an Institute Dec. 19-20. President of Daviess Co. Club presided. There was an address of welcome and a response. The road question was discussed by the Commissioner of Agriculture; then a paper on tile drainage. In answer to the question, "Are your farming lands deteriorating in productiveness?" a number of farmers said their land was getting better, while some said their land was getting poorer. All agreed that clover is the mainstay of the farmer. Other papers were on intensive gardening, the best forage plants and one on general horticulture, which last was more flowery than practical. One question asked was, "What causes the trunks of young apple trees to turn black on the southwest side, and die?" The question was never answered. Farmers' Institutes, to be a success, should be conducted by thoroughly posted and practical men.

W. E. Embry, Dade City, Fla.—There are a number of lecturers in our State who have special topics which they discuss when so requested by the leading farmers and fruit growers. The names of the lecturers and the subjects they will talk on are printed in the leading State paper, or sent to county committees, and two or more speakers, aside from local talent, are engaged, and expenses paid out of State funds assigned for the purpose. We find these Institutes, conducted on this plan, give great satisfaction, and the people are greatly edified and benefited by these discussions. Questions are answered by the lecturers or others present.

Clarence Huffman, Charleston, Ill.—Farmers' Institutes in this county are held in the new court house. The attendance is usually good, and the talks and discussions practical and helpful. However, this year the attendance was not what it should have been. More interest in these meetings should be aroused among the farmers. There is one thing which has hurt the Institutes in our county, and that is that certain farmers "preach," in the Institute, that which they do not practice, and so other farmers lose faith in the meetings, and say they are nothing but idle talk. The meetings usually last two or three days. Prizes are given in certain classes of exhibits, and some years horse shows are given. One day is given to domestic science. In addition to the lecturers from out of town and the farmers here, the professors of our Normal assist in the work. This year the Normal building was used in part of the meeting. One night a fine illustrated lecture was given at the Normal on county schools by the superintendent of Cook county. As I said before, all that is needed here to make a success of the Institutes is more interest among the farmers.

Edward Young, Bremen, O.—We have a regular set of officers, consisting of president, vice-president, secretary, treasurer and five executive committeemen. We have our constitution and by-laws, and meet our expenses by charging a membership fee of 25 cents per member, and we have over 200 on our list. We also receive $25 State aid, there being four Institutes held in this county and are furnished two State speakers at our regular winter Institute. We have been able to have a good orchestra. Besides our regular winter Institute, we had a farmers' picnic in a grove, the first part of September. We hired one speaker, and the farmers took part in the exercises, which consisted of speeches, music and discussion; and, by the way, one of the best ways of improving our Institutes is to get the farmers interested by having them take a place on the program, and be on hand with a speech or a paper to read. We have no trouble in getting the good farmers to take part, but it is the men that think they know enough about farming, that we have not been able to reach. Whenever we get this kind of men to attend Institutes, and read good farm papers like the P. F., the Institute system will be more of a success than at present.

E. C. Union, Morrow, O.—The Farmers' Institutes at this place have the name of being among the best in the State, and in points of attendance, enthusiasm and warm debates, ours probably stand second to none. This is brought about by the co-operation of almost the entire community with nine members of the Institute Board. This board spares neither time nor expense in arranging a program of music, recitations and discussions. All extra expense is soon made up by generous donations from the business houses of the town. Our Institutes here take with the people, because they entertain the people. According to program, the State speakers delivered ten addresses, followed by discussions, five papers read by local talent, ten recitations, eleven duets and solos, interspersed with a dozen or more songs by a noted quartette of lady singers, hired for the occasion. Of course, this furnishes plenty of entertainment, and the opera house is always packed by town and country folks alike. The farmers look on our Institutes as two days for rest and recreation, but of little value as concerns farm instruction. For the farmers' benefit I would suggest that an Institute should be a school where farmers could add to their knowledge of farm work, instead of being a place of amusement. The farmers' sons should be brought in to read papers and talk on farm topics, and in this way foster a love for the farm and its work, and train them to fill one of the noblest of positions, that of a tiller of the soil.

C. W. Kellogg, Bedford, O.—When an Institute is wanted here in any locality the managers of the County Fair make written application to the State Board at Columbus for one or more speakers. They then appoint others to fill the program, and publish the Institute in the county papers. The speakers are expected to be well posted farmers. As a rule, the meetings are well attended. The evening sessions are full, as the ladies are on hand to furnish music. The interest in the meetings grows every year. I think they could be improved by the farmers making exhibits of their products, as a good display would make a valuable object lesson. If everyone carried a basket of samples the whole would make a good exhibit.

R. D. Myers, New Chester, Pa.—We had quite a successful Institute this winter, held by the State officials. The three State speakers were excellent, and caused the farmers to open their eyes to see where they are and what they can do if they try. The Institutes can doubtless be improved by the farmers, if more of them would attend and quiz all the information from the State speakers they can; but farmers most needed, are not there; they are loafing at places of no benefit or credit to them, ridiculing the book farmers, as they call the Institute workers. To get these farmers interested is no easy task, yet I believe the local committee could aid, by handing these farmers a program and politely inviting them to attend the Institute, stating that they, as well as other taxpayers are paying the expenses of these meetings.

Henry Hewitt, Junction, Ill.—The Illinois Farmers' Institute was created by an act of the General Assembly, in 1894. Each county receives $75 each year, from the State, to assist in carrying on the Institute, but no county officer is allowed to receive any pay for any services rendered the Institute. Our county also appropriated $50 last year, to pay premiums on an agricultural exhibit. A splendid lot of farm and domestic products were exhibited. This especially attracted the ladies, and the result was a greater interest and larger attendance than at any Institute yet held in the county. The hardest problem we have to solve, is, in getting the farmers interested enough to attend the Institute; but if we can once get them to attend we have no further trouble, as they at once become interested and regular attendants. The exhibit feature helps to enlarge the attendance if it does no other good. We have the Institute work thoroughly organized in our county (Gallatin), consisting of president, vice-president, secretary, treasurer, and a vice-president for each township, working in harmony with the Congressional and State organizations. In all meetings for the consideration of best ways and means of carrying on the Institute work, arranging program, selecting speakers, etc., the township vice-presidents are urged to attend, that the interests of every part of the county may be looked after. Two or three speakers recommended by the State Committee are secured each year for the Institute, and generally someone from the Experiment Station at Urbana. After each subject we have a discussion by the farmers present, which adds zest and interest to the meetings. A query box proved to be a very interesting feature at our Institute. We hold a two-days session and one at evening of the first day. At the evening session educational subjects are generally discussed. This year we had a prize contest the contestants reading a paper on some subject pertaining to agriculture, choosing their own subjects. This proved to be interesting and profitable. The sessions are interspersed with music and an occasional recitation to vary the monotony. We are just now thinking of calling a meeting to devise ways and means for making the Institute better this year. We contemplate having a corn-growing contest among the boys of our county. Our object in this is to encourage and interest the boys in better farming; also to teach a lesson in corn growing and breeding, having especially in view the better methods in seed corn selection. A portion of the corn is to be exhibited and judged at Institute next fall. We believe this will increase the interest and attendance in the Farmers' Institute. We expect to spare neither pains nor trouble to accomplish the real object of the Farmers' Institute in our county, namely, better farming, better stock, more beautiful farms, more beautiful farm homes, with pretty lawns, grass, trees and flowers, more comfort and happiness for the farmer and his family.

W. H. Knouse, Bunkertown, Pa.—In our county (Juniata) two Institutes are held annually, a two-days Institute in different parts of the county. Two, and sometimes three, instructors are employed by the State management. This "team," as they are generally termed, consists largely of Drs., Hons., Cols., Profs., etc., whether practical farmers or not, and their lectures, therefore, are often abstruse, theoretical and not readily reconcilable with ordinary farming operations. These Institutes are generally largely attended by that class of people who seek amusement rather than instruction, but the class of farmers most in need of edification are noted for their absence rather than their presence, and of the entire number of farmers in the county, scarcely one out of every hundred attends these Institutes. I would suggest this improvement: That a practical farmer of each county be appointed as county organizer and manager, he to organize a local Institute in each township; these Institutes to be regularly officered and provided to meet regularly once a month. The county manager to attend as many of these meetings as possible, and secure the help of as many practical farmers as will give their assistance gratuitously, and, sometime during the winter season, hold conventions composed of these local Institutes, at which practical farmers will freely interchange views and experiences, and thus mutually impart to each other instruction of a more practical nature than the often theoretical, technical and inapplicable erudition of the average lecturer furnished by the State.

Thomas Patton, Mosgrove, Pa.—Institutes are not attended here as they should be, even by the better class of farmers, and when taken to account they will excuse themselves with a thousand reasons for non-attendance, such as bad roads, stormy weather, too far, etc. Here we have one Institute a year, lasting two or three days, and held at the county seat, mostly in the month of January, when the stay-at-homes can honestly put in these excuses. The lecturers consist of one or two State speakers, the rest being home talent. The way to better the present situation has been fully explained by the Editor in the P. F. of Jan. 3rd; by describing the method practiced in the State of Missouri. We have always been of the opinion that seeing an object is the better way of getting knowledge, hence object lessons interest far more than lectures. If a man sees better methods or better stock, he will grasp the desire to possess such sooner than if he is told or reads about such. If a farmer goes to a fair where there is No. 1 stock, fruit, grain, etc., it will create a desire in him to try to produce the same, and the result will be improvements. Institutes conducted on the Missouri method will create the same, and we believe these object lessons on wheels would cause larger attendance.

P. E. Davis, Taunton, Mass.—Farmers' Institutes in this section are conducted by the agricultural societies that receive a bounty from the State. One condition is, that each society shall hold at least three Institutes during the year. Each society chooses the speaker, the subjects, time and place of meeting. On account of lack of interest (so says one society) most meetings are held in connection with a Grange meeting or other organization. The plans for all meetings are matured only a few days before the meeting is to be held. Thus, without a quick method of advertising, the majority of farmers do not hear of the meeting. I believe there should be a State Institute manager and each society be required to arrange the details and report, so as to have dates of meetings published in agricultural papers weeks before time of meeting. There seems to be a tendency to conduct the meetings for the bounty instead of for the farmers.

C. C. Beals, New London, Ind.—The Farmers' Institutes of Indiana are held under the auspices of Purdue University School of Agriculture. An annual appropriation is made by the State, which is used by the State Superintendent. At least one Institute is held in each county during the year, and in several counties two or more are held. The program is made out by a local committee in each county. They use local talent for some of the speeches, besides the speakers sent by the State. The papers read at the Institutes are sent to the State Superintendent, who has a number of the best printed in the State Agricultural Report. The subjects treated should be those in which the farmers are interested, and it would be better if the meetings were held in the smaller towns, where a large number of people would be reached who would not go to the county seat, and who need the instruction.

Howard R. Brockett, Bristol, Conn.—Farmers' Institutes are managed much the same here as everywhere else. The farmers meet, listen to speeches, perhaps observe experiments, listen to more speeches, do some visiting and go home to tell their friends that it was quite a success, and those who didn't go missed a good thing. They are right about it; it is a good thing, but might be made better if more definite results could be obtained, and the best way to bring this about is to impress upon the farmer the desirability of reading some good national farm paper. At the Institute he hears many valuable suggestions, all of which he cannot, or does not, write down, and so most of them are forgotten before being put in practice. In the paper he finds information on all farm topics, and if he does not remember all, he can look up the subject again at his leisure. He will understand and profit more from hearing a subject discussed at the Institute if he has read about it in his paper. The best paper for every farmer to take is the P. F., and the man who, at the Institute, gets up a club for this paper does more good than any of the speakers. To make the Institute more successful, let some speaker put before the audience the necessity of keeping up with the times by reading the best weekly farm paper published, and then let a committee be appointed to not only receive, but solicit subscriptions. Also have some copies of the best new books on farming, such as "Our Farming," by Mr. Terry, "Crop Growing and Crop Feeding," by Prof. Massey, "The Garden Book," by Mr. Greiner, etc. Many who would never order the books will buy if they are brought to their notice, and one will learn more from reading one of these books than by attending many Institutes.

SUMMARY.

We note that in those sections where there is the most interest in the Farmers' Institutes, there is too great a tendency to make them mere entertainments for the town people, rather than schools for the farmer. We have seen a number of the programs which show this tendency plainly. Exhibits of farm products are, of course, a very valuable feature in any Institute, but when it is run into a series of dialect recitations and school exhibitions the Institute is losing its most valuable features. Time is wasted on these things that do not belong to an Institute, and the men who came to help instruct are bored by being compelled to wait while the performances are going on, and then have not half enough time for their work. But it is urged that these things are needed to get the crowd out. Better not have the kind of a crowd out which comes only to be entertained, and to crowd out the real farmers for whose benefit an Institute is supposed to be run. Then, as one of our friends suggests, there is in many places the talking farmer, who gets on his feet on every topic and knows just how everything should be done, while his neighbors know that his farming at home is not in accordance with his theories. There are farmers of this sort all over the country, and it is one of the most difficult things for the Institute Director to manage to keep such men off the floor, for a talking farmer who is slipshod at home will do more harm than any Institute can do good. What the Institutes need in every State is a thoroughly efficient Director, who will be at every Institute, and who, while not interfering with the local organization, will nevertheless so manage that the local committee will be guided aright and be restrained from running the Institute into a variety show or a school exhibit, any of which, however proper in their own place, are out of place at the Farmers' School, the Institute. Then, too, the wise Director can secure the very best speakers from various parts of the country, men who combine scientific knowledge with practical experience. In the States that have had the greatest success with Institutes they are always managed by a State Director, and there is nothing like the one-man power in an Institute, provided the one man is a wise one. Then, too, the county town is seldom the best place for a real Institute. Far better have it in the country among the farmers, where there will be farmers and no one else in attendance. One hundred farmers in a country place will make a better Institute than one hundred farmers and four hundred townspeople in the county seat. It is not so much the crowd as the kind of crowd that is to be desired. Then, again, while the winter season is nominally the leisure season on the farm, it is the worst season to get farmers together. There are always, in farming sections, periods in the late summer and fall, when farmers are for the time more at leisure than when the stock is in the barns, and the roads are good and driving pleasant. In the South the late summer and fall are the Institute season, and we believe they would be better in the North, both for speakers and people. The question which Mr. English says was asked at his Institute in regard to the blacking of the bark on the southwest side of young apple trees, and which he says was not answered, I would say that it is sun scald, and a common trouble in the South. We always head our trees about 20 inches from the ground. Then a shingle stuck on the southwest side will protect the stem until the head grows large enough to shade it. Tall stemmed trees should never be grown in an orchard.

Our Barter Column.

Advertisements will be received for this column from our yearly subscribers only. Only advertisements of farms for sale, articles for exchange, help wanted, positions wanted, etc., will be received. Charge 1 cent per word for each insertion. No advertisements of less than 25 words or more than 10 agate lines will be admitted to the column. This column will appear each alternate week.

Wanted. 50 or 75 any good white variety of pigeons for squab raising. Address R. J. SHIRLEY, Harford Mills, N. Y.

Wanted. 2 first-class young men to work on farm. Good wages to good men. N. S. BURRIER, New Midway, Md.

Wanted. A reliable, single man to work at general farming. Write stating wages wanted. WARREN H. BLOSSER, R 1, Calla, O.

A Bargain. Tool for tightening wire fence; saves half time. Haven't further use for it. Will sell for $1.25. Address W. L. SIMS, Newton, Iowa.

Wanted. Girl for general housework. To help in small family on farm. State age and wages. MRS. A. B. JORDAN, Woodford, Huron Co., Ohio.

For Sale. A farm with good buildings and bearing orchard in Albemarle County, Chesapeake & Ohio railway. Address W. S. RODES, Afton Va.

Wanted. Three good, honest young men to work on my farm. Wages, $25 a month with board for the season. CHAS. E. HICKS, Hope, North Dak.

Holstein. Paul De Kol. stock. One bull, two years old; one 9 months old; one heifer 9 months old; for sale or exchange. GEO. W. LAKIN, Hilliard, Ohio.

Wanted. Good reliable farm hand; one with experience in trucking preferred. Highest wages for first-class man. HENRY SOHN, Woodlawn, Beaver Co., Pa.

A Trained pedigreed 2-year Scotch Collie female. Will exchange for Berkshire sow or 6-months pigs. M. B. turkeys for exchange. CHAS. BENNETT, Goodman, Va.

For Sale. Farm of 125 acres, 5 miles south of Newark, Licking Co., Ohio. House and out buildings. Price, $50 per acre. R. BRUMBACK, Thornville, Ohio, R. R. No. 5.

320 Acres For Sale. 9-room house, orchard. Well fenced. 250 in cultivation, balance in pasture. 2½ miles from railroad town. R. W. SIMPSON, Liberty, Kan.

Sale or Exchange. Violin, bow and music. Will exchange for incubator. Must be of standard make and nearly new. JESSE L. MILLER, Bentley Creek, Penna.

Young Man of 22 wants work on a Pennsylvania farm; uses neither liquor nor tobacco; good worker; wages, $20.00. Address, RAY H. DOTTERER, 952 N. 11th St., Philadelphia, Pa.

Farm for Sale. 7½ miles from Manchester. 100 acres; 60 in cultivation; 100 apple trees; log buildings. Church and school ¼ mile outside range. $1,000, E. C. LYON, Dawn, Tenn.

For Sale. Less than cost. Fruit farm Sunny South. Grapes, peaches, berries, etc. Healthy, mild climate; good water. Good opening for vegetable, poultry, retail milk business, in a winter resort town. Lock Box 34, Pinebluff, N. C.

For Sale. "Samson" printing press, 8x12. Also about a dozen fonts of type with cases. Lot of leads, slugs, rules, dashes, cuts, rights, etc, $40 cash or will exchange for good two-horse farm wagon. JAS. H. RHODES, Roycefield, N. J.

Morgan Stallion. Seven years old, bay. To exchange for Spanish Jack. Sire of stallion, Peters Morgan, by Vermont, by Gifford, by Woodbury, by Justin Morgan. Dam Wm. Sheridan, by Way-horse, by Royal Morgan, by Sherman, by Justin Morgan. Jack must be large, kind, sound, sure foal getter, etc. Address Box 23, South Montrose, Pa.

For Sale or Exchange. Fine dairy farm, 160 acres; extra good buildings; running water in house and barn; 30 acres timber. Two miles from creameries, P. O., mills and stores. Will sell cheap for cash; $2,000 can remain. Might take small place located in Pennsylvania, New Jersey or Delaware. F. H. BURLEY, West Burlington, Pa.

For Sale. Sixty acres fruit, poultry and vegetable land, with small cottage; close to railroad and good markets. This is a rare chance for a fruit man or Summer home. Mountain stream and springs for irrigation. Can be thrown by gravity all over farm and many hundred feet over dwelling. For health, fruit, water and climate, no better. 30 acres cleared and planted; apples and peaches. Will lease, sell, or furnish half capital to develop berry and fruit orchard. Address W. S. RODES, Afton, Va.

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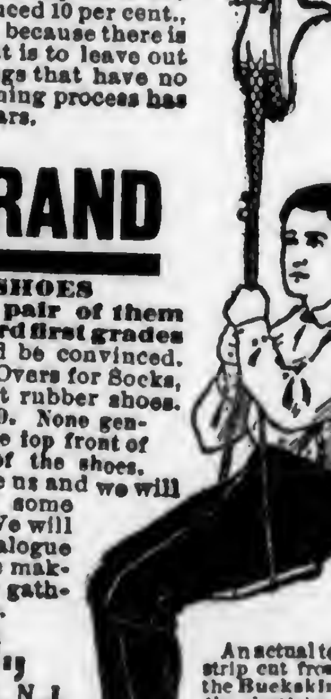

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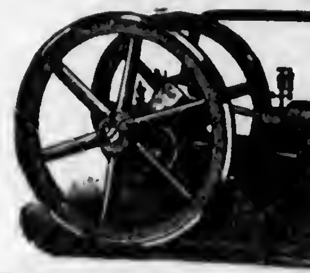

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Mistakes, Failures and Successes.

In this department we publish the Mistakes, Failures and Successes of our subscribers. They are equaly instructive and necessary, pointing the way to success. Subscribers are cordially invited to send accounts of efforts they have made which resulted in failure, as well as those which proved successful. Give in a few words your experience of anything connected with farm or household work. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Only helpful communications of value to P. F. readers will be accepted. The head of the column will be considered the position of honor each week. Send all communications to Geo. T Pettit, Oneida, Kan.

Mistake and Success with Celery.—Broke ground and about April 1st sowed oats at the rate of 3 bushels per acre. Applied compost May 28th, at the rate of 50 tons per acre. Oats about a foot high; turned under oats and compost May 30th. Leveled ground with combination drag, harrow and roller (will give description of same later on). Rebroke ground for celery June 18th, cultivated ground with combination cultivator, before laying off furrows, about 6 inches deep, with a Planet Jr. one-horse cultivator which I had closed up to about 10 inches, going twice in each furrow. I then scattered a high grade commercial fertilizer at the rate of 800 pounds to the acre in the furrows, and ran the cultivator twice more in the furrows, thoroughly mixing the compost, fertilizer and decaying vegetable matter with the soil. As I finished laying off the ground a nice rain fell and ground was settled enough by the 20th of June to transplant celery. Had fine plants 8 to 10 inches long after top and roots were cut back to the desired length. Every plant lived and grew off nicely. The way I got such nice celery plants was by sowing seed in the open ground in drills 12 inches apart, cultivating and thinning seedlings to stand 6 plants to the foot. Gave frequent cultivation, handled celery about the last of October; took up every other row and put in trenches, to give room to earth up the other rows. As a result, that put in trenches nearly all rotted, while that earthed up was as fine celery as ever grew; 2 feet tall and as crisp as ice. Variety was Winter Queen. Next year will put rows 8 feet apart with some other vegetable between.
J. W. GRIFFIN.
Carrollton, Ky.

Rules for Cake Making.—The best of materials must be used if they can be procured. Bring all materials to the work table and be accurate in measuring. When measuring by the spoonful, round over the top as much as it bowls underneath, unless otherwise stated in recipe. Sift flour and scoop into cup; mash lumps in baking powder before measuring it; grease pans with unsalted, melted fat, then dredge with flour; invert and shake pan to remove surplus flour, leaving only a thin coating. This gives a smooth surface and prevents the cake from sticking. In filling pans have the mixture come well to the corners and sides of pan, leaving a slight depression in the centre; then when the cake is baked it will be flat on top. Cake pans should be filled nearly two-thirds full if the cake is expected to rise to top of pan. Before beginning you must have perfect control of the fire so you can regulate the temperature as desired.
MRS. J. W. SPARKMAN.
Middle Fork, Tenn.

Keeping Meat.—My successful plan for keeping hams for years has been to cut in half and slice through bone and all, say the next day after butchering, then salt and pile it up, piece on piece, until all is in. Leave it thus till next day, then fry and pack in clean stone jars, leaving room to put one inch of hot lard on top. In this way the meat will keep good, sweet and juicy and is ready for the table at a moment's notice. A few minutes in a hot skillet, and when taken out it is ready for the table.
Rose Hill, Ind. C. G. FRANTZ.

Improve the Moments.—A mistake a good many farmers make is in thinking they can loaf because it is raining. I have been here two years and I have not seen the time yet I didn't have a lot of work ahead, that I could do under cover if it should rain for a week or two steady, which it hardly ever does in Oregon. I know of no business men who think they can afford to loaf in rainy weather, and every farmer ought to be a business man. Plan your work carefully. The man who has the best managed farm in this neighborhood, and who makes the best living, is the least able, physically, to do a day's work, of any man on the creek.
Greenleaf, Ore. MARION P. WHEELER.

Where There are Trees.—If one has a row of trees along the side of a field, but little grain can be raised within two or three rods of the trees. It is not always advisable to cut the trees down, and a good plan is to keep a strip two or three rods wide along the trees in meadow, which need not be fenced to itself. It will yield a fair crop of hay and make a good place to turn in cultivating the other crop. This is much better than to let the vacant land grow up to weeds and produce nothing of value.
Newton, Ia. W. L. SIMS.

Sowing Clover Seed.—One of the worst mistakes many farmers make is in sowing poor or half cleaned seed. It is true it takes time to thoroughly clean grain for sowing, but it is an investment that pays at harvest time. Poor seed cannot produce anything but failure, and even good seed may sometimes produce a poor crop. I have noticed our best farmers are those who thoroughly clean their grain for seeding.
N. Huron, N. Y. DANA WALDRON.

Squash for Winter and Spring Use.—To keep squash for winter and spring use select perfect squashes and put in dry, warm place. If a few only are wanted for family use, the upper pantry shelves answer very well, as the heat from the kitchen stove will provide the right temperature. The variety called "Crookneck" is an excellent keeper, and by this method I keep them in perfect condition for pies through Winter and Spring.

Beef Suet for Shortening. — Equal quantities of beef suet and lard tried out and melted together make an excellent shortening, good for all purposes for which lard is used. It is also more economical, as beef suet is cheaper than lard. MRS. N. E. MOORE.
Uncasville, Conn.

Buy in Quantities.—It is a great mistake to buy in "dribs." Though living in a village, the writer is constantly watching out for opportunities to save by purchasing in considerable quantities or where someone is selling out for cash. So many firms here have sold out for cash, that by buying ahead, one can buy non-perishable goods to about as good advantage as in the city. The writer recently purchased laundry soap at a reduction of 20 per cent, flour 10 per cent., and other things at about the same rate. As we usually pay cash, this counts up in the course of time. I was surprised beyond measure about a year ago, to find the saving by buying sugar in 25-pound bags instead of 25 to 50 cents' worth at a time.
Findlay, Ill. J. F. WILLIAMS.

Burying Cabbage.—My neighbor buried his cabbage in quite a new way, and with good results. The cabbage was late and had not headed very well, so instead of pulling it he turned the stalks down to the ground and heaped dirt upon it. The roots were not injured, and it grew and made nice, tender, solid heads, which were just fine for slaw or to boil or fry, making a very pleasant change of diet. Another neighbor let large stalks of loose cabbage stand and rot.
Corydon, Ind. C. C. HUBBARD

Harvesting Onion Sets.—To keep onion sets from getting too large, I pull green, as soon as the set is large enough. Lay in rows or swaths, having the tops cover the bottoms, so the sun cannot burn them. Let lie until the tops rot or dry. Then throw in bushel baskets and a little rubbing makes them ready for the fanning mill. The tops will blow out and you have a nice lot of sets, and no large, unsalable ones.
Hamilton, O. J. KLEINFELDER.

Fence Posts.—For farm use there is no cheap substitute for fence posts, although some have tried the new iron posts, but they are much too expensive for general use. Our farmers are making a bad mistake in not only failing to put out more black locust and catalpa trees to come on in the future, but in careless cutting of what they already have. Many farmers here and in the neighboring State of Ohio, cut timber that will do for posts, for other purposes, very often even making fire wood of it. They will live to see the day that they will regret it.
Waldo, W. Va. S. A. DYKE.

Failure with Corn. — Very many farmers make a mistake by sending away for their seed corn, often getting varieties that are not adapted to their climate and season, thus frequently resulting in almost complete failure. In sending away for corn, care should be exercised to get seed from about the same latitude where it is intended to be planted, as it will have a better show for ripening. If any deviation is to be made from this, let it be a Northern rather than a Southern product. Southern corn, unless it be a very small variety, requires a longer season in which to mature. To insure corn growing, the seed should be gathered before freezing weather and thoroughly dried before storing it. If thoroughly dried and stored in a dry place, freezing will not have so much effect on it. JAS. A. GILLETTE.
Burchinal, Ia.

Used the Wrong Paint.—I painted my house with a widely advertised cold water paint. Put on three coats and when finished it looked fine. It continued to look so just three months, for then our rainy season set in and after three days' beating rain the house looks as if it had the small pox. The paint was washed off in spots, and now I have to re-paint with white lead and oil, and bear the remarks of my neighbors who "told me so." R. L. GOODWIN.
Fort Pierce, Fla.

The Maule Seed Book
for 1903 is free to all interested in gardening who mention this paper. If you want an up-to-date garden you ought to have it, the best seed catalogue I have ever published. The first edition alone costs over $37,000. Address
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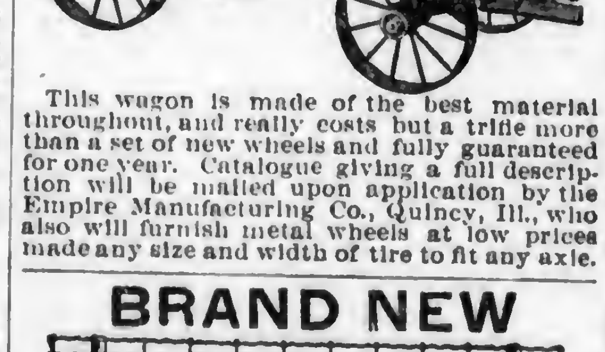

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This wagon is made of the best material throughout, and really costs but a trifle more than a set of new wheels and fully guaranteed for one year. Catalogue giving a full description will be mailed upon application by the Empire Manufacturing Co., Quincy, Ill., who also will furnish metal wheels at low prices made any size and width of tire to fit any axle.

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THE FROST
1903 catalogue now ready. Describes and illustrates the best Hard Spring Steel Wire Fence on the market. The strongest and most durable gate made. Write for one.
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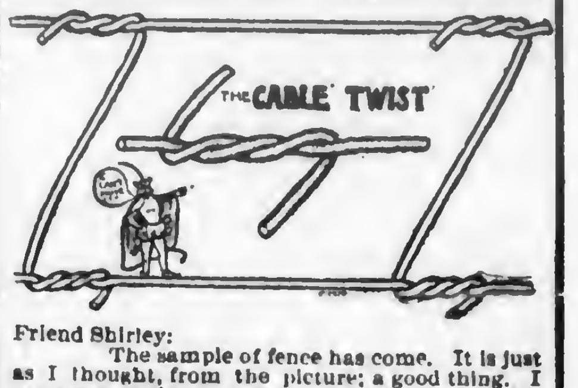

Friend Shirley:
The sample of fence has come. It is just as I thought, from the picture; a good thing. I can see, at a glance, that those diagonal stays are much better than those that are perpendicular. And then, I like it, because the wires are all large, (No. 9). We have some fence with partly small wires that is not going to last long. Glad you advertise in the P. F., as we want our folks to know of the best in every line. Most truly,
T. B. Terry.
Use our machine to repair that old fence, and then you will use it to build new fences. The $3 will be refunded if you are not satisfied. We recently sold our home county for $400 and half of an adjoining county for $150. This shows the estimate of our fence at home. (Agents wanted).
Eureka Diagonal Stay Fence Co., Lebanon, Ind.

THE HARTMAN
Special Hog Fence.
Woven to make a solid, compact unit, and any pressure or shock is distributed and borne by the whole mass of wire. Top and bottom wires specially strong, all horizontal and truss wires of ample strength with meshes fine enough to turn the smallest pigs. Made of
Best Steel Wire,
strongly galvanized. No loose ends to unwind. All long wires, twisted and woven so that meshing always retains position. Height, 24 or 30 inches. Adjusts for heat and cold without breaking or sagging. A fence of fine appearance, most durable and with strength to turn any hog. Sold at reasonable prices. Send for free catalogue
CUYAHOGA WIRE & FENCE CO., Dept. M, Cuyahoga Falls, O.

Write for a catalogue of our new diamond mesh, woven steel wire fence. The best form of farm fence for all-round use.
KOKOMO Steel Farm Fences
Examine it at your dealer's. You buy it without risk. It is guaranteed.
Kokomo Steel & Wire Co. 31 North Street, Kokomo, Ind.

Postal Card Correspondence.

This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

Situated in Rockingham county, in the celebrated Valley of Virginia. Have had some cold weather but not enough snow for sleighing. Wheat is looking well. Feed is scarce and high. Principal crops are wheat and corn. Fruit scarce the past season. Some plowing has been done for spring crops. Prices: Wheat, 80c.; corn, 60c. per bu.; shorts, $22 per ton; cattle, 4 to 4¼c.; hogs, 5 to 6c.; chickens, 10c.; butter, 20c. per lb.; eggs, 25c. per doz.; potatoes, 50 to 60c. per bu.; corn fodder, 5 to 6c. per bundle. Success to P. F. and subscribers.

H. A. A. Reubush.
Cross Keys, Va., Feb. 3, 1903.

Located 6 miles east of Seguin, the county seat of Guadalupe Co., on S. P. R. R. Been having lots of rain all winter. Very little cold weather as yet. This is a farming country. Land fairly productive. Good schools, churches and fairly good market for produce. Principal crops are corn, cotton, sorghum, potatoes, watermelons and tomatoes. Fruit does well, especially peaches, plums, pears and grapes. Prices: Corn, 55c. per bu.; cotton, 8c. per lb.; sorghum hay, $15 per ton; chickens, $2.50 per doz.; butter, 20c. per lb.; eggs, 25c. per doz.; horses, $25 to $75; mules, $75 to $125; cows, $25 to $40 each for good ones; labor on farm, 50c. per day, with board; beef, 10c.; pork, 7c. per lb. Health of community good. S. M. Lillard.
Seguin, Texas, Jan. 29, 1903.

We have had cold weather and plenty of snow the past six weeks. Last summer was cool, with excessive rains. Crops only fairly good. Prices at Preston, the county seat: Wheat, 60c.; oats, 27c.; barley, 45c.; corn, 50c. per bu.; hogs, $6 per cwt.; butter, 22c. per lb.; eggs, 20c. per doz.; potatoes, 60c. per bu; land worth $55 per acre.

Anton M. Hanson.
Ostrander, Minn., Jan. 31, 1903.

Located in the Piedmont section of North Carolina, 8 miles from Greensboro, a thriving manufacturing town of about 22,000 inhabitants, with 40 factories, and which promises in a few years to be the leading city of the South. Is the junction of four branches of the Southern Ry. The farmers are mostly progressive. The land is rolling, with some few hills. The timber is being cut at a rapid rate for the factories. Land sells for from $10 to $50 per acre. The past season was dry, with a nice fall and winter. More wheat sown than usual, which looks well. The farmers are taking more interest in raising stock, for which there is a good demand. Prices of products: Wheat, $1; corn, 60c.; oats, 48c. per bu.; chickens, 25 to 30c. each; butter, 20c. per lb.; eggs, 18c. per doz.; cotton, 7 to 8c. per lb.; horses, $50 to $150; cows, $20 to $40 each; wages, men, 75c.; girls, 25 to 40c. per day.

Miles N. Kephart.
Guilford, N. C., Jan. 31, 1903.

We have had very cold weather; the thermometer stood at 8 degrees below zero on Monday, Jan. 12. It is hard to find coal in our large city of Cleveland, hard coal especially. Sold the last of my chickens; got 10 and 10½c.; have sold $116 worth of chickens and eggs from 68 hens, and have 175 hens left; who can do better? Eggs, 28c. Have had good sleighing where the snow did not pile up too much.

Mrs. J. L. Ritchie.
Northfield, O., Feb. 2, 1903.

Situated 6 miles east of Princeton, Illinois, the county seat, and 4 miles north of the Illinois River and R. I. & P. R. R., also 4 miles south of C. B. & Q. R. R., and 10 miles west of Spring Valley, the greatest coal mining centre in the State. Farmers industrious, as a rule, and main crops are corn, oats and hay, with some market-gardening, the produce being sold to mining towns. We had an exceptionally wet spring, summer and fall, commencing the 1st of May and lasting till the 1st of December, making the quality of farm products below the average. A good many fields of oats left standing. Average yield of corn about 45 bu.; oats, 30 bu. per acre. Prices: Corn, 40c.; oats, 30c.; wheat, 60c.; potatoes, 50c. per bu.; hay, timothy, $12 per ton; horses, $90 to $150; milch cows, $35 to $50 each; fat cattle, $3.50 to $6; hogs, $6 to $6.50 per cwt.; poultry, 8 to 9c., live weight; butter, 23c. per lb.; eggs, 24c. per doz.; farm help scarce; wages, $20 to $29 and board per month; girls for housework, $3 to $4 per week; land rents from one-half of all grain, delivered to market, to $4 to $7 per acre. A good many farmers going West in search of cheaper homes.

L. Hebbolsheimer.
Princeton, Ill., Feb. 2, 1902.

We are situated on the San Joaquin River, 60 miles south of San Francisco. This is one of the best grain growing sections in the State. Here we never speak of bushels; it is always sack. Our sacks of wheat weigh from 135 to 150 pounds, or nearly 2½ bu. From 18 to 25 sacks per acre is our yield in a good year; barley going as high as 30 sacks, and over. Up to date this winter we have had but little rain. The wheat is coming up, but on account of not having rain some of it has rotted. We sow about 120 pounds to the acre. Nearly everyone here summer-fallows about one-half of their land every year. Winter sowing does not pay. Wheat and barley are the principal crops, though there are quite a few orchards in this vicinity. Almonds do well here on the sandy lands, when the frost does not catch them. Our soil consists of adobe, free soil, sediment and sand, and sells from $50 to $250 an acre, according to its location and improvements. Wheat sold for $1.47½ per cwt.; barley for $1.20. Nearly all the farmers sold as soon as harvested for about $1.10 per cwt. I would like to know if cow peas will grow on sandy land, and where I can ser to get about 5 pounds to try them? I don't think they have ever been tried here. I want something for hog feed; alfalfa does well in some places here, but the gophers soon destroy it. If you will kindly inform me about these peas, what kind is the best, etc.?

B. L. Grigsby.
Brentwood, Cal., Jan. 29, 1903.

[Send to Wm. Henry Maule, Philadelphia, for Early Warren cow peas.—Ed.]

Situated in the northern part of Wisconsin, 30 miles from Superior and 35 from Duluth. Formerly the only occupation was logging. Cut over land being bought and farms started. Fast coming into dairy and grass producing, for which it is well suited. Thirty-five families have moved in from Iowa and Nebraska and purchased our cheap lands. Some homestead land left, remote from settlements. Grows small grains to perfection, also potatoes and vegetables. Prices: Eggs, 33c. per doz.; butter, 30c.; dressed hogs, 8c.; beef, 8c. per lb.; potatoes, 60c.; onions, 90c.; oats, 35c. per bu.; hay, $14 per ton. Plenty of good water, fine scenery and good fishing.

C. H. Mastin.
Lake Nebagamon, Wis., Jan. 31, 1903.

Southeastern Kansas. Winter has been rather mild; no zero weather yet; but little snow. Corn mostly husked and marketed. Crop prospects not very flattering; wheat away below normal. No fall plowing done, on account of too much rain. Farmers will be delayed getting in spring crops. Farmers generally cheerful and hopeful. No fuel famine here; too much wood and natural gas. Many home seekers looking for land. Horse and mule buyers shipping out a good many animals. Prices: Eggs, 15c. per doz.; butter, 14c.; chickens, 8c. per lb.; corn, 30c.; oats, 30c.; wheat, 50 to 60c.; potatoes, 40c. per bu.; horses, $50 to $100; mules, $25 to $40; hogs, 6c. per lb.; land, $10 to $50 per acre. Success to the P. F.

Elk City, Kan., Jan. 31, 1903.

Situated in the southern part of Caroline Co., Md., in the great tomato canning belt, for which our land is well adapted. Tomatoes our main money crop, with wheat and clover second. We can grow any crop that can be grown in any part of the Eastern States. Have had but very little snow, and have our winter work well in hand. Looking forward to this year as the very best for farmers in regard to prices, and think this is the best part of the world to live in. Prices: Wheat, 75c.; corn, 50c.; very few oats grown; potatoes, 50c. per bu.; hay, $12 per ton; tomatoes, 15 to 20c. per basket; horses, $75 to $125; cows, $25 to $40 each; pork, $8 per cwt.; land, $25 to $40 per acre. Good schools and churches; good water everywhere. Plenty to eat, and a heart full of thanksgiving to God for it all.

John Rosser.
Federalsburg, Md., Feb. 3, 1903.

◆

A Fine Kidney Remedy.

Mr. A. S. Hitchcock, East Hampton, Conn., (The Clothier) says if any sufferer from Kidney and Bladder Disease will write him he will direct them to the perfect home cure he used. He makes no charge whatever for the favor.

GOOD SALARY for man in each county to sell teas, coffees, etc., to homes and stores. Valuable premiums to customers. KIRTLAND BROS. & CO., Dept. 6D, 296 Broadway, New York.

2nd CROP SEED POTATOES. King William, Early Rose, the Early Rose of 25 years ago. The Natural Standard Early Potato, other varieties and cow peas. Address E. L. LIPSCOMB, West Point, Va.

ROSS CUTTERS AND SHREDDERS SAVE FEED, TIME & MONEY. OUR FREE FEED-SAVING LITERATURE TELLS YOU HOW TO DO IT. SEND FOR IT. THE E. W. ROSS CO. SPRINGFIELD ~ OHIO.

BIG 20

Price advances to 15 cents a share February 15. You have read the notices of this remarkable property in The Practical Farmer from time to time. Its great value is beyond question. Every foot forward in the great tunnel demonstrates the fact that this will be a giant among Cripple Creek gold producers. Shares that can be bought now for 10 cents will advance to 15 cents Feb. 15, and will be sought after at 50 cents before a year. Get in now at the

GROUND FLOOR PRICE

A thousand shares of this stock will bring you a handsome income.

1,000 shares of Quincy brings an income of $6,000 a year.

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Big 20 has every chance of doing as well. Buy now before the price advances. Machinery has been bought and is now being installed.

This is your opportunity. Don't let the day pass without writing and ordering a block of this stock.

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Calves That Scour Get run down, even if they do not die. Hood Farm Calf Scour Cure and Digestive Powder, used in connection, cure scours promptly; keep calves from shrinking. $1 and $2.50. Sent to any railroad express point in U. S., 25c. extra. C. I. HOOD & CO., Lowell, Mass.

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Gold Stocks FREE 5 shares (paid up) in a good Cripple Creek gold mine free to all who send us 50c. for big weekly illustrated family and mining paper 6 months' trial. Clubs of 2 or more (with shares) 40c. each. Stamps taken. Western Weekly, Denver, Col.

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On March 20th your $225 invested to-day will become $375

Shares NOW 15c. Advance to 20c. February 20th. Another Advance to 25c. March 20th.

The OFFICERS and DIRECTORS of the PEOPLE'S UNION OIL CO.

Are prominent and successful business men of Chicago. The honesty and ability of such men cannot be questioned. If in doubt—look them up.

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George Calhoun, Treasurer. Western Manager Geo. Munro's Sons, Publishers, New York.
Henry C. Heineman, Director. Furniture Dealer.
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All of Chicago, Illinois.

All orders dated on or before February 20th will receive the shares at 15 cents each. Par value $1.00. If desired you can buy shares on the Installment plan and have the use of your money for 60 days, and at the same time your investment will increase in value 100 per cent.

$225 cash with order, on installment plan, buys 6,000 shares.
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$18.75 cash with order, on installment plan, buys 500 shares.
$7.50 cash with order, on installment plan, buys 200 shares.
$3.75 cash with order, on installment plan, buys 100 shares.

With the further sum of 25 per cent. to be paid in 30 days and the balance of 50 per cent. in 60 days.

On all cash orders a discount of 2 per cent. will be allowed.

POINTS AND FACTS regarding THE PEOPLE'S UNION OIL CO.—The management will bear the most searching investigation. The stock is fully paid and forever non-assessable. The business of our Company is to produce and refine oil. A 1,500 barrel refinery will be constructed by the Company. This refinery will pay the Company $105,000 per month. The Company owns 1,040 acres of high-grade illuminating oil land in the State of Colorado. They also control for 20 years 500 acres in Kern County, California. Thousands of dollars have been expended for machinery, buildings, etc., to develop our rich territory. We own enough ground for 400 wells. Shares now selling at 15 cents will be selling at 50 cents a share by July 1st. Dividends will be paid our stockholders within six months from date. An investment in THE PEOPLE'S UNION OIL COMPANY'S treasury stock is as safe as Government bonds. The price of illuminating oil has advanced 4 cents per gallon since September 20th. This means an addition of $65,000,000 in profits per year for the oil companies of the United States. THE PEOPLE'S UNION OIL COMPANY are offering you the chance of a lifetime. More fortunes have been made out of oil than any other product mother earth has yet given up. It is the cleanest money in the world. Many readers of this paper have profited largely during the past few weeks. There is yet time for you. Why give your banker 100 per cent. on the earnings of your money and take 3 per cent. for yourself, when you can invest and receive several times what the banker receives from your money? Don't delay in sending for our prospectus. Many are having shares reserved while getting money ready. Why not you?

The question is often asked: What returns may I expect from my investment. We quote you the following table to show.

$50.00 invested in Oil City Pet in 1900 realized $3,500.
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These are only a few companies; there are hundreds more. What other legitimate investment can show a like return.

One hundred shares ($15.00 worth) is the lowest amount of stock we sell. Buy as much more as you possibly can stand. To receive the benefit of the advance in price you need not delay to investigate. Send in your order at once and investigate afterwards. If not satisfied with your investigation we will return you your money. In asking for information or sending in remittance, address

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THE PRACTICAL FARMER.

THE KEYSTONE TO SUCCESSFUL FARMING

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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

How to Breed and Raise Heifer Calves for Milkers.

Noah Cripe, N. Manchester, Ind., wants to know how to feed heifer calves from birth on, and also how to care for them. Allow me to add to this the selection of calves to raise. Perhaps you may say, raise those that come from the best cows. All right, but that isn't enough. The sire should have been a good individual, with the general make up and marks that to the practiced eye show that he is such, and then also, he should be a pure bred animal. There are plenty of pure bred animals, with long pedigrees, that have no value because they are not by any means perfect types of their class. Better pay a man who is a good judge $300 to select a sire to head a herd, rather than take an animal on his pedigree only. Yes, I would not buy one at all, unless I had the skill to pick him out, or could employ someone who did have. This is pretty strong language, but it is used in all earnestness to help readers, to prevent bitter disappointment in years to come. Now how are you to know which are your best cows? Only by weighing the milk and keeping a record through the year. It will do very well to weigh once in ten days, morning and night, then multiplying by 3 will give you, closely enough, the amount given in a month. Then, if quality is an important factor with you, as when you are selling butter, or cream, you should have a Babcock tester also. Then you can know absolutely which cows give you the most milk and the richest milk. Their calves, from a good, pure bred sire, are the ones to raise, if the calves themselves are all right. Don't have a weak point in this chain anywhere. Don't take it for granted that all the heifer calves will be good from a good sire and mother. They may be, and may not. I would follow the Van Dreser method of selection. Look in the mouth of the new-born calf. If there are, say, only two teeth just pricking through do not attempt to raise that calf, no matter what its parents are. The mother lacked vitality enough to fully develop the calf. If there are six or eight teeth, well put through, showing vigor and stamina in the mother, all right so far. Next turn the little heifer on her back and examine the teats. If there are four good teats, well spread apart, and two or more rudimentaries (extra little teats), then raise the calf. The chances are largely in favor of her not disappointing you when she becomes a milker, if you raise her rightly and feed and care for her later as you should. There are many poor cows among pure breds even, because the above rules are not rigidly enforced. Right here let me say that a calf may fail to be well born, probably will, if the mother was confined in a close stable almost without exercise. One cannot violate natural laws and keep up the vigor and stamina of the progeny. You can get more milk for a time, but a reasonable amount of exercise and pure air are necessary if you want either animals or human beings to hold their own in constitutional vigor. Give these heifer calves new milk, warm from the mother, for about two weeks. Don't let them suck the mother. Give them only a moderate amount, just enough to keep them growing nicely; never enough to fatten them, as you would for veal. In about two weeks, friend Cripe, gradually work them onto skimmed milk. Have a thermometer and see that this is always warmed to about 100 degrees and always sweet. Work in gradually a very little flax seed meal. This will give oil to take place of butter fat that has been extracted. Old-fashioned linseed oil meal will do fairly well, but has not nearly as much oil in it. Pour hot water on the meal and make a jelly and put in only a teaspoonful or so when you first begin to change from new to skimmed milk. Increase the amount gradually as you see calf is doing all right. A little wheat middlings can be put in after a time. Put some nice, bright, early cut clover hay in a rack where little calves can pick at it. They will soon do this. By the time they are six or eight weeks old they can eat oats and wheat bran in small quantities, fed dry. Never feed any corn. Do not feed a large amount of skimmed milk. Be moderate. The idea is to feed growing foods and those only, nothing to fatten, during the entire two years that the heifer is getting ready to give milk. This will not make smooth, plump calves, such as a butcher would want, but it will make the best possible heifers for giving milk. Of course they may be turned on grass in due season. Often some wheat bran fed with the pasture grass will be a good addition. What one wants is to make them grow, steadily and thriftily, at all times, but never to start the habit of laying on any fat. If this is once done they will not be as good milkers in the years to come. If pasture is short, always see that the heifers have enough proper food to keep them growing thriftily, such kinds as are named above. During the entire winter season keep them growing, as well as in the summer. Furnish a dark shed for them to run in when on pasture, so they can get away from flies, or spray them, same as you do the cows. Do not let the flies retard their growth. In the winter keep them running loose in pens that are warm, comfortable, sunny and dry. You can put them in stanchions while eating, so they will not waste feed. Water twice a day and turn them out in a yard to have a run for a time every pleasant day. Each calf should have at least 250 cubic feet of space in pen, and, of course, it should be well ventilated besides. Don't forget to let the sun shine in and to use bedding enough to keep surface dry. Manure may be allowed to accumulate under them for months if the surface is dusted twice a day with land plaster, or acid phosphate, and fresh straw, or sawdust, added often enough to keep a dry, clean bed for them. Always be very gentle with them. A good carding daily will pay during winter. The writer has done this many a time and there was always a good-natured scramble among the calves to get scratched off first. They enjoy it. I particularly want to caution all friends against keeping the little, young calves in dark, wet places. I have often seen them thus cared for, their bed all wet with their own urine. This is dangerous. Their health may suffer as a result and they may even die. If they get sick at this time it will check their growth decidedly. It is very important that they start off well. Sunlight and a dry bed will help. Then watch them closely to see that the feed is all right. Be very gradual about making any changes in food. See that the young calves have pure, fresh water where they can get it at all times. They will not get water enough in the milk, perhaps, particularly after they begin to eat hay and dry grain. Put no salt in their food, but have it where they can lick at will.

Health Hints. — Piles; Cause and Cure.—This trouble is a swelling of the veins at the rectum, outside or in, a sort of varicose condition. When the enlarged veins, or tumors, bleed, the disease is called bleeding piles; when they do not, it is known as blind piles. The causes are practically the same, as also the cure. This is one of the penalties we pay for living under unnatural conditions. Lack of out-door exercise, sitting down too much, particularly in cushioned chairs, the use of liquor, tea, coffee and spices, constipation, and also certain kinds of physic, tend to bring on this trouble. One may inherit a tendency to piles, that is a weakened condition of the veins; but if he has the disease it is because he has not taken proper care of his health. A varicose condition of the veins means a weakened condition of the system, the general health. The only exception to this probably is during pregnancy, when there is a local and temporary reason for the trouble. To my mind all ointments and lotions are unnecessary and of little use. Certainly they will never permanently cure as long as the cause of the trouble remains. They may relieve somewhat. If there were nails in your shoe that hurt your foot would you put some soothing ointment on the foot, or have the nails rasped off? In the latter case you cure for good; in the other you relieve somewhat, perhaps. It is precisely the same when you doctor for piles. Your physician would tell you this, if he were paid so much a year to keep you well, instead of making his living out of your sickness. Possibly, in very severe cases, a surgical operation may be necessary for a complete cure, but certainly such cases are few. Operations are often performed that would be unnecessary if the patient would attend to his general health. Always remember that the surgeon has a money interest in performing this and all other operations. I do not say they are not as honest as you or I, but usually it is human nature to want to grind your own ax. The surgeon wants to cut you up and get paid for it. I say "usually," but this rarely applies to an ailing person. The P. F. wants to make you look out for yourself when you are sick, and cure yourself permanently at small cost. If you are troubled at all with the piles begin at once to take better care of yourself. Remember the disease is always one of nature's plain signals of something wrong. Take more exercise. Breathe more pure, fresh air night and day. Take a cool bath every morning; avoid all stimulants and spices. Prevent constipation in ways told of recently. Let physic alone. Manage so nature will move the bowels properly. Sit only in cane seat chairs, and not too much of that. In short, take care of your general health in accordance with the hints that have been given from time to time in these articles, and any ordinary case of piles will soon be a thing of the past. But now for temporary relief, while you are building up your general health, there is no ointment on earth equal to simply sitting down in a tub of cold water and bathing the part for three to five minutes, morning and night. This will strengthen and help the varicose condition of the veins better than anything else known to man. Water right from the well will not be too cold. Made colder, with ice in it, it might be more beneficial, in some cases. A simple remedy, isn't it, but no doctor living can tell you better. But remember this does not do away with the necessity for removing the cause that is back of all—constipation, lack of exercise, or fresh air, or whatever it may be. I have used the word "varicose" several times. Remember it simply means swelled, or enlarged, and is the common word to denote that condition in a vein.

I will go further and give you a plan that may be worth more than gold in some cases, where constipation is obstinate, or excrement irritates the enlarged veins, particularly at the start. When you first get up in the morning inject with a syringe about four tablespoonfuls of clean, cold water. Let it remain and soak into the excrement until after breakfast. Some bowels may throw it out at first, but in time they will get used to it and no inconvenience will be felt. Trial will show how little you can get along with. There is not enough, and it does not go up far enough, to do any possible harm if followed for years. It need not take you more than one minute. It will be a great help to many old people. Use as little water as will answer the purpose, and always cold. Warm water will not be as likely to stay. All of this article is from experience. My father was a minister and suffered from piles. I inherited a weakness in this line. There was some trouble at times during my younger days. Some ten years ago, aggravated by my working out of doors less and writing more, I began to have decided annoyance. At last it got so bad I was alarmed and went to a good physician. He said it was not really serious, and gave me something of a palliative nature to apply, and closed with the consoling remark that I could never get rid of the disease, and as I grew older it would trouble me more and—not one single word as to the real cause of it. Well, the writer is only a grown-up boy, and you know if you tell a boy he can't do anything he immediately wants to. In this case he began to study the matter, and as a result has had absolutely no trouble whatever for years, now. This teaches that one can do almost anything, if he is determined to, and that the sins of the parents visited on the children is not as serious a matter as we used to think. Inherited tendencies can be overcome.

T. B. Terry.

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QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Fish Offal.—E. White, Black Rock, N. C., on page 64 asks the Editor to suggest a way to use, as a fertilizer, the waste from a large herring fishery on Albemarle Sound. The Editor has tried more than once to make fish useful as a fertilizer. The fish placed directly in the hill for corn will decay and do good if let alone. But the buzzards and the dogs will not let it alone, and in our experience they have been the chief trouble in composting with the fish. The best success we have had, was by composting the fish with a liberal amount of black mold from the woods and muck from the marsh. Always use this as a composting and not entirely as an absorbing material, for if used too dry it will have the effect of denitrifying the compost Hence we have preferred to use it while fresh. We put the materials up in layers, and after a few months chopped it down and turned and mixed it well. This process takes a good deal of time. The best way to use the fish offal would be to have a steaming outfit and steam and press the stuff like tankage, then pulverize it for use same as the fish scrap from the fish oil factories is treated. If all the fisheries in the neighborhood united and put their offal through such a process, we think it would be found the most profitable way to dispose of it. The great size of these Albemarle fisheries, and the fact that the millions of herrings caught are all cut and packed there, must make the offal amount to a very considerable amount and well worth looking after as the waste of the meat packers in the West is looked after.

Pasture for Sheep. — T. W. Jordan, Knoxville, Tenn.—"I would like to have the advice of the P. F. on sowing a piece of land for supplementary pasture for sheep this Spring. My idea was spring oats 2 bushels, 4 or 5 pounds of rape and some Canada peas. Need the pasture most in May, June and July. We usually sow oats in March. Please advise methods, quantity of seed, etc., or change the suggestion for something else. How long can one get pasture on oats? What fertilizer? Fair land, in Pulaski Co., Virginia. Want to get the land back in grass at once. I read the P. F. with much interest and profit." In the elevated country of Pulaski Co., Va., the Canada peas and oats may do fairly well till the end of June, but would hardly be of much value later. The rape may help out the pasture for sheep. Still we do not know of anything else that would promise more, and which can be sown in the early spring. Why not try crimson clover instead of rape? We believe that, sown in March with the oats, it would beat the peas and rape and last longer after the oats fail. At any rate it is worth trying even if you still retain the peas. In our experience the Canada pea is a very uncertain crop anywhere south of the Potomac. To get something on the land for sheep to eat in summer from spring sown seed is rather a difficult matter. Things which can be sown early, like the peas and oats, will come on fast enough, but will be apt to fail just as fast. We have never sown crimson clover in spring, but can see no reason why it may not help the pasturage very much. We would use two bushels of oats, one of peas and ten pounds of clover seed per acre. We do not think that we would use any fertilizer except perhaps to give the growth a top dressing of about 50 pounds per acre of nitrate of soda, when the weather and crop is dry. As you want to get the land back in grass at once it will be necessary to take the sheep off late in summer so that you can prepare the land for sowing the grass seed in the fall. On part of the land it might be well to try the rape as a comparison with clover. You have a problem that we have never had to work out for ourself, and, of course, the reply is largely guesswork, but we do not think that we are wrong. There is need for experimental work in this line, for we time and again get similar queries.

Orchard in California. — W. Laughlin, Arroya Granda, Cal., has an orchard that has been cropped hard and not fertilized. Wants to sow something on it to help the trees. Finds it too cool on the coast for cow peas. We are not familiar with your climatic conditions, but would assume that you have plenty of rain in winter, and that the best thing would be to sow crimson clover in September or October and plow it under in spring. In your climate cultivation and irrigation will probably be best for the orchard, but you ought to be able to get a good winter growth of the annual clover. Sow some rye or oats with it and plow all under in the spring.

Watermelons.—R. M Walters, Leadville, Tenn.—"Please give me a good plan for raising watermelons for the early market. Soil light, sandy and thin. Can get plenty of manure. Propose to plant Maule's New National, McIver Sugar, Harris' Earliest, Dixie and Maule's Superior muskmelon." With sandy land and plenty of manure there is no difficulty in making watermelons. Check the land off 12x12 feet, and clean out the checks so they will hold four good shovelfuls of compost. Pile the manure mixed with one-half black mold from the forest, and turn and fine it repeatedly before planting time. Put at least four shovelfuls in each hole. Then scatter a handful of some high grade commercial fertilizer in the hill and cover with soil before dropping the seed. Use plenty of seed to get a stand, and then thin to two plants to the hill.

Grass. — H. W. Johnson, Winston-Salem, N. C., has a piece of land he wants to make a permanent pasture of, and is thinking of sowing Bermuda grass. We would advise you to let Bermuda grass alone in your section. You are too far up country for it to do its best, and it will be a nuisance. Seed the land heavily with a mixture of 10 pounds of orchard grass, 5 pounds of red top and 5 pounds of poa compressa, called by some, English blue grass. This 20 pounds will seed an acre very well, and will give you a good pasture summer and winter. If you can manure the land thoroughly with stable manure, all the better.

Curing Pork.—J C. Maness. — "Will you give me the best recipe for curing pork? I want it to keep through the year." If you want simply pickled pork there is no difficulty in keeping it. Make a brine strong enough to pop a potato and drop the pork into it two days. Then take it out and boil the brine and skim it, and add one ounce of saltpetre to each 100 pounds of meat. Put the pork back in this brine when cold and keep it covered and it will keep sweet. To make bacon it should stay in the brine but two weeks and then taken out and smoked.

Clover in Midland Va.—G. W. Morris, Poindexter, Va.—"Land in Louisa Co., Va., which formerly made fine crops of clover and wheat, has, for the past twenty years, failed, though still making 40 to 45 bushels of corn per acre. Can I get a crop of clover by sowing last year's corn land in peas in May and taking them off in August for hay and then seeding to clover in September?" If you will give the land a light dressing of lime after you prepare the pea stubble for sowing, we believe that you will get the clover. If not, you will still have the chance to sow in the spring. Fertilizer will help, perhaps, but that land will grow clover if you lime it at the rate of 15 bushels of freshly slacked lime per acre.

Clover in N. C. — R. W. Freeman, Gerton, N. C.—"I have a field of clover, mown twice last year. Shall I top dress it in spring with commercial fertilizer? If so, what? I wish to improve the land for Irish potatoes. How shall I treat it? I have a field of rye, would it be better to sow clover in the rye, or to follow it with cow peas after harvest? What will be the best fertilizer for potatoes on sandy loam soil which makes about 30 bushels of corn per acre, and would it do for corn on same kind of land?" If you can get lime at a reasonable price it will pay better to give the clover a dressing of 15 bushels per acre of freshly slacked lime in spring before growth starts. If not, then give it a dressing of 300 pounds of acid phosphate and 50 pounds of muriate of potash per acre. In your soil and climate we think you can improve faster with peas than clover. We would follow the rye with peas. For Irish potatoes mix 900 pounds acid phosphate, 600 pounds cotton seed meal, 100 pounds of nitrate of soda and 400 pounds of muriate of potash and use 500 pounds per acre. This will do, also, for corn, but we doubt the profit in using so high a grade of fertilizer for corn. Better depend on peas or clover for corn, with all the home-made manure.

Grass in Piedmont N. C.—C. L. Carroll, Cherryville, N. C.—"I want to sow some grass on sandy upland, with red and yellow clay subsoil. When should it be sown, what kind and how to prepare the land? Also where to get the seed?" You do not say, but we assume, that you want the grass for a pasture. We would advise that the land be sown in cow peas in late May or early June, using on them a good dressing of acid phosphate and potash, say 300 pounds per acre of the acid phosphate and 50 pounds of muriate of potash. Cut the peas for hay in August and then plow and prepare the stubble carefully and sow a mixture of 10 pounds of orchard grass, 5 pounds tall meadow oats grass, 5 pounds of red top grass and 5 pounds of English blue grass, or poa compressa, per acre. Sow the seed in October or early November. You can get the seed from Wm. Henry Maule, Philadelphia.

Horse Radish.—S. M. B., Vira, Pa.—"I have bought a lot, which is completely set in horse radish. Can any of the readers of the P. F. tell me how to get rid of it?" Dig every particle of the roots out. Cut them into sets as long as one's finger, cutting the top square and the bottom end sloping, so as to distinguish them. Tie in bunches of 25 and then advertise the sets in the P. F., and we think you will get rid of them without cost. Of course, any pieces left in the ground will grow, but these can be smothered out by sowing buckwheat thickly and plowing it under in bloom and then liming the land and sowing crimson clover on it. But as the lot is small you should be able to dig all the roots out.

Scrofula

Few are entirely free from it.

It may develop so slowly as to cause little if any disturbance during the whole period of childhood.

It may then produce irregularity of the stomach and bowels, dyspepsia, catarrh, and marked tendency to consumption before manifesting itself in much cutaneous eruption or glandular swelling.

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Peas and Sorghum. — W. H. Eberhardt, Bowie, Texas, proposes to plant Early Black Eye peas between rows of sorghum, planting the sorghum in March and the peas in April. In 60 days he thinks both can be cut and he will then prepare the stubble and sow Clay peas to cut in the fall. Asks for an opinion. There is no doubt that the Early Black Eye peas will mature seed in 60 days. At least they do for us. But we can see no particular advantage in the method proposed, for the growth of the peas will be larger if planted alone than it will be between the sorghum, and the sorghum will be far better feed if allowed to grow to maturity. We would plant the Black Eyes on part of the land and the sorghum on another part. Cut the peas about the time the cultivation of the sorghum stops and then sow all the land between the sorghum rows and on the pea stubble, with Clay peas. Cut and shock the sorghum when seed is in milk, and you will get a larger amount of better feed than the way you propose.

Hog Pasture. — W. McNeal, Bloomdale, O.—"I have a lot near barn which I would like to use for hog pasture this summer. What can I put there which will make pasture earliest?" Probably the earliest pasture could be made by sowing rape seed as early as the land can be worked.

Pine Needles.—C. C. Gettys, Duncan, N. C.—"Many farmers here have pine needles in abundance near their fields. Will it pay to spread these broadcast and plow under for cotton and corn on land needing humus. Of course we use them for bedding, but this takes but a tithe of what we have. Am reading 'Crop Growing and Crop Feeding,' and regret I did not get it sooner. It ought to be studied by every farmer." It will pay to haul and spread the pine leaves. The only difficulty in the case of cotton would be that the trash might interfere with getting a stand. There is nothing better for sweet potatoes. The humus will be gotten on the land cheaper by growing peas than by hauling leaves, but it will pay to haul the leaves in a leisure time.

Corn in Illinois.—A. S. Jones, Carbondale, Ill.—"I want to plant a piece of bottom land in corn. It has a hard pan 6 to 10 inches below the surface, and I am told that if this is broken the land will dry out too quickly. It is too wet to plant early. What kind of corn shall I use? Would the weeder do on this land, and level culture?" It would seem that the hard pan is the one thing that keeps the land wet in spring, and we would not hesitate to break it when close to the surface and in reach of a good plowing. If apt to suffer from drought, and does not get wet in summer, it will be a good place to use the weeder and flat culture. If liable to be flooded or wet in summer ridging would help the surface drainage. The best corn will be the Early Mastodon offered by Wm. Henry Maule, of Philadelphia.

Mixing Fertilizers. — W. H. Smith, Wescoesville, Pa.—"Last fall in a reply to a man who is mixing his own fertilizers from tankage, dried blood and acid phosphate, you said that you would leave out the blood and use only the tankage. Why do you prefer tankage to the blood, for it is claimed that blood is one of the best carriers of nitrogen for the wheat plant? What is the difference between concentrated tankage and tankage made from horseflesh of the same per cent.?" Our correspondent should have said just where we made the reply, so that we could turn to it. You say that the inquirer was making a ton of fertilizer by mixing tankage, blood and acid phosphate, and was using 300 pounds per acre of this on wheat. Now it is not a matter of preferring tankage to blood at all, but simply to avoid getting an excess of nitrogen. The mixture you name would have too much nitrogen and no potash at all, and hence would be a very poorly balanced manure for wheat. Dried blood is an excellent source for nitrogen, if any is needed. But we would like to live to see the day when the wheat farmers are farming in such a way that there is never any need for their buying any nitrogen at all. Now, as to the difference between one lot of tankage of 10 per cent. and another of 10 per cent., it will depend on what the percentage is of. Tankage may have 10 per cent. of phosphoric acid or 10 per cent. of nitrogen, and you do not say which, so we cannot tell you the difference. If the 10 per cent. is of the same ingredient, in the same form, there is no difference at all. It never pays to buy nitrogen in any form for wheat when you can get it free while improving your land with peas.

Farming in Idaho. — B. A. Grover, Lane, Idaho.—"Have bought land in Coeur d'Alene Valley. Half of it in wild hay, and so low that it is overflowed in May. The high land grows excellent clover and timothy and all sorts of vegetables. What sort of grass can I put on the low ground that will not drown out? Or what crop can I raise successfully planted after June 10th?" It will depend on how soon frost comes there in the fall, as to what you can plant after June 10th. Here, we could easily ripen a crop of corn planted at that time, but in your country you probably have frost too soon to make a corn crop. If you will write to Dr. J. H. McLean, Director of your Experiment Station, at Moscow, Idaho, he will be better able to suggest crops to you than we can, living in such a different climate. The best grasses you can put on the overflowed land will be red top, foul meadow grass and alsike clover. These will suit the conditions and your climate as well as any.

Winter Bird.—J. C. M. G., New Wilmington, Pa.—"A bird sings here early on winter mornings, its note being much like phee-bee, phee-bee. It is said to be a sign of cold weather when it sings. I have never seen the bird. Can you tell me its name?" The Phoebe and the Pewee, both of which have notes similar to what you describe, are summer visitors only, though the Phoebe will arrive in your part of the country in February, usually. The bird is probably the Chickadee, the little fellow with a yellowish breast and black top to his head. The colder and more stormy the weather, the more jolly the little Chickadee gets. He is the greatest of friends to the orchardist, for there is no bird which destroys so many canker worms. It is calculated that one Chicadee will eat 5,500 eggs of the canker worm in a day, and 138,750 during the 25 days which it takes for the canker worms to climb the trees. These birds should be cared for and food scattered for them in stormy weather.

Grass in N. C. Mountains. — A. D. Reynolds, Bristol, Tenn.—"I have purchased a large body of very rich mountain land with a black soil from one to two feet deep. It is in Mitchell county, N. C., and most of it lies about 3,000 feet above the sea level. The land takes in grass naturally, which cattle seem to like, but which is not as fattening as blue grass. Could I break this sod and get a sod of blue grass? Timothy grows very luxuriantly, and I have thought of growing timothy seed instead of grazing, on the smoother land, as several hundred acres of the land lie quite smoothly. About how many bushels of timothy could be grown on rich land? Could I get a combination machine that would thresh oats, timothy and rye? Could a steam gang plow be used on smooth land profitably? I was thinking of using one on river bottom land where I grow corn for my cattle. I enjoy reading the P. F. very greatly." We do not think that you will have any difficulty in getting a sod of the so-called English blue grass, poa compressa, on the land in Mitchell Co., and perhaps Kentucky blue grass may do well, though it is more adapted to the growth of timothy than any other section. We were assured by a farmer in the adjoining county of Watauga, that the mountain sides there would stand mowing for fifteen years in timothy. It is one of the chief peculiarities of the North Carolina mountains that the mountain sides, unlike mountains in most places, are very fertile, and this increases the temptation to clear land from the forest which never should be cleared. The lands you mention should be well adapted to the production of timothy seed, as they are comparatively clean. We cannot find any data from which to estimate the probable crop of seed, and as we never threshed any ourselves, will have to ask our readers who have grown the seed. An ordinary thresher will do the work for the cereals and the timothy, too, but the cleaning will be the greatest trouble, and will need very careful management. On wide areas of level land the steam plow is a success, but we doubt its availability in your section, since level areas are rather limited. The time will soon come when those fertile mountain sides will be covered with apple orchards and the finest fruit in the country produced.

Corn in Virginia.—C. C. Wine, Spitler, Va.—"I have some new land from which the timber has been cut. I want to put it in corn two years in succession, and am thinking of sowing rye at last working, the middle of July, so as to have a winter cover on the land to be turned under in the spring. Will it injure the earing of the corn? Or had I better sow later, or put something else instead of the rye? The old people here say, 'Never plow corn in dog days.' How about it?" It will be far better to sow cow peas the last working of your corn, and then after the corn is cut and shocked you can sow rye all along the dead pea vines, and will have a mass of stuff to turn under, and a good winter cover, too. As to working corn or other crops in dog days, it will depend on whether they need it or not. If the corn is planted late and the cultivation runs into the dog days, go ahead and cultivate it and let the dog days take care of themselves. We once planted a large field of late cabbages right across the mountain from you, in Albemarle, and right away the "old folks" came along and told us that if we worked those cabbages in dog days we would make no crop. We noticed that those who followed this advice themselves did not make any cabbages. So we kept right along and made a splendid crop, though they were worked regularly all through the dog days. The man who imagines that a growing plant is better off in the heat and drought of the dog days, without cultivation, knows very little about cultivation. The notion has arisen from the old practice of plowing the corn deeply. This should never be done in dog days nor at any other time. Those who plow their corn and cut the roots off had better not plow in dog days, but those who work their crop shallow and rapidly, and keep a dust mulch there all the time, may work the corn as long as they can get through it.

Cow Peas in Mo. — T. F. Mitchell, Fruitland, Mo.—"Will cow peas do any harm to pregnant mares or cows? Do cow peas fix as much nitrogen in the soil North as South? There is hardly a farmer here who does not sow them, and yet there are many who doubt if the peas do the land any good at all. There are many who make hay and all kinds of stock are fond of it. For years we have had trouble to get a stand of clover. Whether the land is clover sick or not we have not found out. Most farmers turned to the cow peas and thought they had found the right thing, but, here, they do not seem to leave the desired fertilization, especially when the peas are cut off, and the ground left bare during the winter. We have also found that pea ground does not make good wheat, but if the peas are hogged off it will make good corn the next season. Can you tell us in the P. F. what is the matter?" Cow pea hay, fed judiciously with a proper ration, will do no harm to pregnant animals of any kind. The amount of nitrogen fixed by the peas, either North or South, will depend on the development of the plants and the abundance of the nodules on the roots. If there are no nodules there will be little, if any, increase in nitrogen. If there is an abundance of nitrogen in the land the peas or other legumes will not get it from the air to the same extent that they would if they were obliged to do so. Hence on soils very rich in nitrogen the peas may do little good. You give us no information in regard to the character of your soil. It would seem that it must have something of an excess of nitrogen if wheat does not do well on a pea stubble. We would not expect good wheat anywhere from turning under the whole growth of peas. Your corn is able to take care of a great deal more of the organic nitrogen than the wheat can, as is shown by the hogging down before corn. Examine the roots of your peas and see if they are well supplied with nodules. If not, then get some soil from a field where peas have grown successfully, and scatter it over the field and note the difference in the peas. Tell us more about your conditions as to soil, etc.

* * *

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CAPT. GIBSON.

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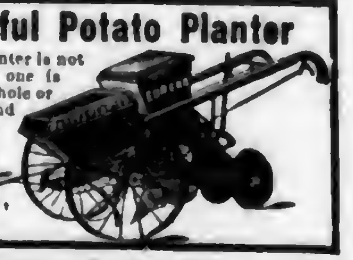

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Scientific Feeding of Cattle.

H. STEWART.

Some years ago there was imported from Europe a system of feeding animals, based on what might be called mathematical principles. It purported to take account of the various nutritive elements of the food and comparing them with the known composition of an animal's body, and the expenditure of force in the vital functions to balance one with the other, and so to formulate a standard ration made up of a certain quantity of the protein or nitrogenous elements of the foods, a corresponding quantity of the carbonaceous elements, and similarly a certain quantity of fats. These proportions were in the ration of one part of the nitrogenous or protein elements to five and a half of the carbonaceous, including the fats along with the starch in this, and other digestible matters in this part of the ration. Thus this nutritive ratio of one of nitrogenous matter to five and a half—or a little more being permissible—if the carbonaceous matters and fats, came to be adopted by our scientific feeders, of cows especially—other animals being to all purposes ignored in this scheme for economical feeding. This system has prevailed, until of late it has gradually fallen in importance, doubtless for the reason that quite as good results in every way have been obtained by a far wider ratio of the digestible elements of the food; and now it is only considered as a practical or economical system by some of the most conservative of the scientific authorities, or practitioners in feeding cattle. A few years ago a very instructive example of the inefficiency and worthlessness of this German system was afforded in a competitive feeding experiment by the Canadian Agricultural Department, in which it happened that the best results, as to economy and quantity of product, were obtained by the widest nutritive ration of the feeding, even up to one part of the protein to ten or more of the carbohydrates; while the general body of practical feeders of cows have completely ignored this system of feeding and have paid no regard to the scientific formula. It is not too much to say that this result might have been expected, for the thousands of feeders of cows cannot be reasonably expected to stand by any such rigid rule on acount of the utter impossibility of it, having, in the great majority of instances, no option in the matter; but to feed their cows in the most convenient way on their own home grown products has been their only practicable course to follow. And it has now come to pass that, as regards feeding beeves, this close adherence to the standard has gone altogether by the board, so to speak, and no one thinks of feeding by any strict rule, or any fixed proportions of the carbonaceous elements and those of protein. Corn is our great feeding grain. Its results have never been equalled by any other food. It has fattened our beeves and made our butter and our pork. And we cannot easily procure any other substance to take its place, in whole or in part. The same applies distinctly to our cows in the dairies. No one thinks of applying this system to the other animals—horses, sheep or swine. Indeed it is impossible to feed these animals under such a close selection of foods on account of the injurious results of such feeding, and why should cattle, including dairy cows, differ from other live stock? It is true that cattle are less subject to injury by choice of feeds than horses or sheep are, and as wide a ratio as one of protein to twelve of the carbohydrates has been used with better results than any narrower one as regards the product of milk and butter, and at the same time a very much narrower ratio may be used for sheep, as alfalfa for instance, and rape, the ratio of the former being one of protein to about three or a little less or more of the carbonaceous matters in it, while that of the latter is one to something less than three. And as this is about one-half of the proportion of the standard ration it must be considered, beyond question, that both sheep and swine, who feed easily and safely, and with entire satisfaction, on alfalfa and rape with their close ratio, may very easily be discarded from the list of animals subject to the present feeding standards. On the same grounds we may discard the feeding of cattle which make their mature condition on corn, which has a ratio of one to eight and a half, while, too, cattle are fed with advantage on the beet pulp of the sugar mills, the ratio of which is one to fourteen. Practically this feeding standard is in use only among a few of the dairies, especially those in which the high bred Jersey cows are kept by owners who leave the management of them to the care of graduates of the agricultural colleges, who have been trained to believe the standard borrowed from the German scientists is the only safe and economical rule for our guide in feeding. The fact is, that here we are under the compulsion of circumstances which are invincible, and must choose the foods which really are the most economical and give place to circumstances by which we are bound to our business. The market prices of foods rule with the very large majority — in fact, we may say with practically the whole body—of feeders of live stock, and it is the cheapness relatively of the foods which control the manner of feeding. Thus it is a matter of practical experience as to the choice of foods we may use, and necessity and not our will or wish, compels the feeder to use such feeds as he has learned by experience give him the best results as to his profits. We have to consider and meet the fact that corn is naturally the staple grain food, and we may reasonably think it ever will be. Hay and the straws are the only coarse fodders, and ever will be. In time we may follow the example of the English feeders and grow roots for the feeding of cattle and sheep, a habit existing in England from time immemorial, and in truth chosen, not so much for any special value, but for the reason that the culture of root crops is so exceedingly conservative and productive of the fertility of the land, that the greater part of the profit of the feeding of cattle comes from this, and it is thus that the English farmers make the feeding of our thin cattle, exported for this purpose alive, one special part of their culture and routine of farm management.

On the whole, we may reasonably think that the matter of scientific feeding rations on the German system may be wiped out from our books, and practice, and in place of it every feeder of cattle, including sheep and swine, will rather depend on the results of his feeding as noted in his pocketbook, than on the scientific balanced rations which have been made a subject of so much impracticable and useless study by American scientific students and teachers.

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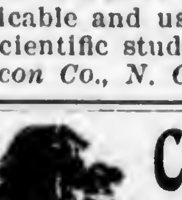

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VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 1016 Davis St., Evanston, Ill., who has editorial charge of this department. All inquiries requiring answer by mail must be accompanied by a fee of $1 each.

Foul in Foot.—Will you give me some information on what is called "stiff disease" among cattle? On first appearance of disease the front feet seem to get sore; after four to six days they get so sore animal can hardly walk; in eight to twelve days soreness spreads up into shoulders, and if cow is left on range the shoulder apparently perishes or shrinks till hardly anything seems left except bone and hide.
Tarpley, Tex. W. J. PRICKETT.

As the cattle affected are mostly poor in condition, it is improbable that any of them are foundered, although that disease in its worst forms leads to the sympathetic wasting of the shoulder muscles referred to by you, Foul in the foot, which is a very common trouble of cattle, is most likely to be that which is troubling you. It is caused by wading in filth, standing in water, or from the irritating effects of grit, sand and gravel or pieces of corn stalks lodging between the toes. An inflammation commences involving the tender skin between the toes and then at the head of the hoof. Fissures and cracks form, matter under-runs the horn, which becomes rotten and gives forth a foul odor and the other symptoms you mention are then observed. First there should be an attempt made to change the management of the cattle so that the disease is prevented if any of the above mentioned causes are present. Second, the actual treatment of the affected animals should consist in applying cold bran poultices to the feet, in each poultice mixing some disinfectant, such as Chloro-Naptholeum. The poultices should be applied after cleansing the parts thoroughly and removing any foreign bodies found present, but a rope should not be passed up and down between the toes, nor should strong caustics be used. All dead horn should be removed with a sharp knife, and if ulcers have formed they should be dusted with a caustic powder consisting of equal parts of powdered sulphate of cop-

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per, tannic acid, boracic acid and starch. This powder may be used several times. After the poultices are no longer necessary, as indicated by subsidence of inflammation and discharge, dress parts with following ointment: Green tar, one part; hard fat, three parts, melted together. Cover part with oakum kept in place by means of a narrow bandage, and renew dressing daily. Lastly, the cattle should be well nourished while under treatment as cotton seed meal has given good results. In addition to other foods you would find nothing better for them than dried blood meal to balance the ration.

Ascites.—Quite a number of cattle in this vicinity have died this year with some disease, apparently of the urinary organs. The symptoms are dullness, with swelling of abdomen, largest in upper right side, near hip. Would eat or drink but little. Swelling increased until 5th day, when it descended to lower part of abdomen, and pressing or shaking caused watery sound. Passed small quantities of bloody excrement. Stood all the time; upon lying down on 7th day died immediately. F. F. KELSEY.
Moorhead, Mont.

The disease is apparently "ascites" (dropsy of the abdomen), and this is usually associated with derangement of the liver and kidneys. The presence of fluid such as you describe might, however, be present in a debilitating disease due to other causes, as, for instance, in hæmorrhagic septicæmia, which is characterized by similar symptoms, blood stained feces, and, after death, the presence of blood spots on the lining of the intestines and other organs. It is evident that the cause of the disease is to be looked for in the food or drinking water, and a careful investigation should be made. Meanwhile the cattle should be generously fed on grain in addition to hay, and there is no better nutrient in such debilitating troubles than dried blood meal, which supplies all the requisites of the body. This change in feeding should include pregnant and nursing cows, as well as the young calves, and if possible cattle should be kept from drinking hard water or water strongly impregnated with alkali.

Collar Boils.—I have an 8-year-old mare that has had pimples, or rather more like boils, since she was a colt. They are only found on her shoulders where the collar presses on the neck and sometimes back on the withers. They vary in size from a pea to a walnut. F. MEEK.
Campbell Hill, Ill.

See that harness fits properly and is kept clean and dry. Always remove harness at noon and then sponge the shoulders, etc., with a solution of one ounce of tannic acid in half a gallon of water. Avoid feeding corn in such cases, and substitute oats, with bran mashes at least once a week. Give half an ounce of Fowler's solution of arsenic twice daily after mare has been gradually accustomed to the medicine by several smaller doses. Should a "bunch" appear at any time, wet it off with a mixture of equal parts of witch hazel and tincture of iodine.

Barren Sow. — I have a fine sow, six months old, that will not breed. She came in heat at her regular time.
Greeneville, Tenn. A. T. ALEXANDER.

Give her two ounces of epsom salts twice a week, in slop. Turn her out of doors and feed spare diet without grain of any kind. When she is thinned down commence injecting vagina, once daily, with a half gallon of warm water in which dissolve a tablespoonful of baking soda. Do this by means of a fountain syringe. At this time feed her a little ground oats and dried blood meal to bring her up a bit, and when she is in heat, after the injections have been given, and also the stimulating food, for two weeks, breed her to a young boar. Write again after that time should she not get with pig.

Callous.—Please tell me what to do for a horse that has been cut by barbed wire, and then was dew-poisoned in clover last summer. His foot is cut just above the hoof, and a hard gristle has formed, enlarging foot. J. M. BUTLER.
Kennedy, Ky.

It is about impossible to reduce such enlargements of the coronet, but we find repeated blistering as effective as anything we have tried. Mix one drachm of biniodide of mercury with one ounce of cerate of cantharides and after clipping hair from entire hoof head, including the old wound, rub the blister in for 15 minutes by the watch. Tie horse up short so he cannot lie down or bite part. In three days wash blister off and apply lard daily over blistered surface. Repeat the blister in from two to four weeks, according to condition of the skin of part. This will tend to reduce the enlargement and remove some of the cicatricial tissue formed over the original wound. Rub in one ounce each time and always have this blister made up fresh, as it is then most effective. The hoof itself should be carefully trimmed to normal proportions and kept soft by smearing daily with a simple ointment made by melting together one part of green tar with three parts of hard fat.

Sheep Ticks.—I have some sheep that for a month or more have been picking at their wool, pulling bits of wool out, making them look ragged. Today I found what I supposed was sheep lice. I send you some of them under separate cover. Wish to know if I am right about it, and what to do to rid them of the pest. J. R. AYRES.
Blue Mound, Kan.

The specimens arrived in good shape, alive and kicking, but are not lice, but sheep ticks (melophagus ovinus). These pests do a good deal of harm when present in large numbers, and are especially annoying to young lambs, to which they migrate when the ewes are sheared in spring. There is no difficulty in killing them by dipping in any good sheep dip solution or preparation, but it is well to give a second dipping three weeks later to catch the ticks hatched from nits. The best time to dip is just after shearing, and the young lambs a few days later. Ticks should always be suspected when it is seen that sheep are pulling their wool and scratching or pawing at their bellies. It is too early in the season to dip sheep now, in your part of the country, unless they could be placed in a heated barn for a day or two after the operation.

Worms and Indigestion. — I have a mare that has pin worms; every fall when I take her off pasture and put her on dry feed the worms get worse; her hair is very rough and gummy, and there is a gluey substance which comes on skin in places about one-quarter of an inch in diameter; after they are dry the hair comes off easily with them. I have a 3-year-old colt from this mare, which also has the same skin disease.
Lincoln Falls, Pa. G. H. BRACKMAN.

The colt suffers the trouble from the same causes, but the disease is not contagious. The pasture used by your horses is probably low and wet, or you feed hay from some such place, and this pasture or hay is contaminated with worm eggs. The worm trouble sets up the indigestion and the skin disease follows. Change your food and pasture and keep young horses away from grass or drinking places used by adult horses. Follow treatment for indigestion so often given in this department of the P. F. For pin worms which are found in the rectum, inject, three times a week, into rectum, a gallon of warm, soapy water in which mix a cupful of strong tobacco tea. If the worms are in digestive tract also, then give one drachm of dried sulphate of iron night and morning in the feed. Allow rock salt, to be licked at will.

Barren Cow.—Please give me a remedy for a barren cow. She has been with the male almost every month for six months.
Bullbeggar, Va. J. G. MASON.

We wish it were as easy to give you a remedy as it is to ask for it. You do not even state age of cow, whether she has had a calf before, whether she is

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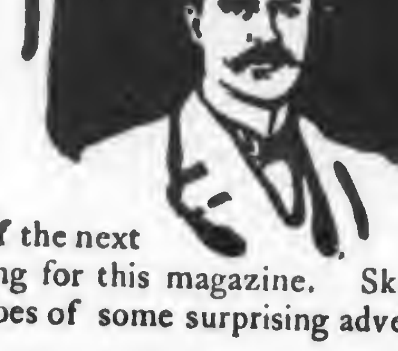

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fat or thin, or has a discharge from vagina or not. All of these things are of the greatest significance in forming an opinion and giving advice, and should be given in detail when making an inquiry. If the cow is fat there is a chance of getting her to breed by depleting her with spare diet, out door exercise and purgatives. Give her a pound dose of epsom salts in two quarts of warm water to start with, and half that amount twice a week afterwards, along with two ounces of cream of tartar in one quart of water. If she has a discharge from vagina, wash out vagina once daily with two gallons of milk-warm 1-1000 solution of chloride of zinc. When she is thin, commence to bring her back again by feeding ground oats, bran, oil meal and dried blood meal, and wash her vagina out one hour before service with a gallon or two of warm water in which dissolve a tablespoonful of bicarbonate of soda to each gallon. Always breed such cows just when period of heat is about past, and until that time keep them in a quiet box stall away from the sight or sound of other cows. It is a good plan when the time comes to breed such cows, to turn them in a small lot with several young, vigorous bulls. Artificial opening of the mouth of the womb should be tried, if necessary, as a last resort.

Lymphangitis.—I have a mare which seems to be in a healthy condition, but about a month ago her left hind leg became very much swollen. After about two weeks the swelling left that leg and both her right legs swelled up from knee down.

Isleta, O. M. ATKINSON.

The swellings most probably came after idleness in the barn for a day or two, while still receiving the same amount of food given when working. When idle, even over Sunday, it is best to stop feeding grain and substitute bran mash and allow some exercise out of doors. Place her in a roomy box stall in clean, well ventilated barn. After giving three bran mashes but no hay, give her a physic ball, unless in foal. The ball should consist of one ounce of freshly powdered Barbadoes aloes, two drachms of ground ginger root and one drachm of fluid extract of belladonna leaves mixed into a stiff paste, then formed into a cylindrical shape, wrapped in tissue paper and thrust well back over root of tongue, when it will be swallowed. After receiving ball keep mare tied up and do not allow much cold water until bowels are normal again. Feed bran mashes until the bowels commence purging, then hay until natural again. Avoid giving a ball in extra cold weather, and always blanket if stable is cold. This treatment, followed by plenty of exercise and soft food, will probably prove sufficient. If not, write again later.

Lameness.—I have a horse which was always a good traveler until about three months ago, when I had him shod and he went lame right after, but only for a short distance, and then would go all right again. I had the blacksmith look at him, and he pounded with his hammer under and on top of his hoof, but he did not flinch, so he thought the shoe was on all right, and he could not find anything else the matter with his foot. Two weeks ago he got so lame he could not trot. JACOB ARENDS.

Sparta, Mich.

We are of the opinion that the seat of the lameness in this case is the foot, and in that case he will stand, at rest, with the sore foot stuck out in front of the body. Where the lameness is in the shoulder a horse stands with foot in natural position, but when trotting rolls the affected leg outwards; also has difficulty in stepping over a door sill or other raised object, tends to stub toe, or drag leg when walking. In sweeney the muscles of the shoulder waste away, but this is also true of the muscles in an old-standing case of severe foot lameness. Sweeney usually follows a strain at the plow and is seen in young horses during breaking or first hard work at plow. It seems quite possible, from the history of this case, that the shoer pricked the horse and was afraid to tell of it. Better take him to another shoer, and without telling the history, have him remove shoe and make a careful examination of the sole, which should be pinched all around the rim of sole with pinchers, which will cause flinching if a sore spot is squeezed. If he was pricked, then pus will have formed under the sole and it will be necessary to cut the sole to allow this to escape; then soak in hot water and poultice with bran and antiseptics until lameness subsides, when a shoe may be put on over a tar and oakum packing and leather sole. Write again at once after making the examination if you do not find anything amiss with the foot and should require further advice.

Indigestion.—My cow has been fed on corn fodder and wheat straw, with corn, oats, barley, white middlings and wheat bran. She has been looking well and has been giving eight pints of milk per day. She now refuses to eat, and is swelling under the throat. GEORGE BAKER.

Finzell, Md.

We fear that the cow will be dead by the time this reaches you, as she is evidently in a very critical condition. The trouble, to commence with, was doubtless indigestion from overfeeding or too many different kinds of food when so little milk was being given. The small amount of milk referred to would indicate either a very poor milker or some chronic derangement keeping the cow from giving a good flow on the generous rations supplied. Such a trouble might be due to tuberculosis, which leads to a gradual decline upon good food, and the fact that there is cough and swelling, which is of a dropsical nature, indicating poverty of blood, would suggest some such disease as tuberculosis, so that in case the cow apparently recovered from the immediate symptoms described, we would test her with tuberculin to determine whether she were healthy or not. Symptoms such as you describe would indicate the need of a dose of raw linseed oil, one quart, to move the bowels, followed by strong tonics and stimulants, such as fluid extract of nux vomica, one drachm, three times daily, and sulphate of quinine, one drachm dissolved in one drachm of tincture of iron and given three times daily, with two to four ounces of good whiskey in a pint of thin oat meal gruel. Blisters applied to such swellings do no good, but aggravate them and make the cow all the more miserable. Should you have another case of this sort in a comparatively strong cow, give a pound and a half of epsom salts, two ounces of ginger root and a pint of molasses at one dose in two quarts of warm water, and follow with the stimulants above advised. The cow in question, is, in our opinion, too weak to stand the strong physic.

Stiffness.—I have a horse that I lately purchased, and he seems to be stiff or sore in his hind feet or ankles. I first thought it was thrush in his feet. Have used bluestone on frogs of the feet. He stands somewhat on toes and seems quite stiff until he is driven some distance. One foot is worse than the other. GEO. E. HUNT.

Port Haywood, Va.

There is nothing in your description of the case to indicate the cause of stiffness, but as he improves with exercise, it may be that he has a spavin in one or both hock joints. If this is the case have joints fired and blistered, and then allow a six-weeks rest in stall tied up so he cannot lie down. Thrush seldom causes lameness, and bluestone should not be used for the cure of that trouble.

Fails to Breed.—I have a Berkshire sow about 30 months old. She has had two litters of pigs; she had her last litter April 11, 1902, and four days after she was served by boar but failed to get in pig. She has been served by boar every month since she weaned her pigs. J. T. OLIVER.

Allens Level, Va.

Give her a four-ounce dose of epsom salts once a week, and turn her out to rustle, with spare diet containing no grain. The salts may be given in swill or as a drench in water. Do not breed her again for three months, and before doing so wash out vagina, several days in succession, with a half gallon of warm water, in which dissolve a tablespoonful of baking soda. Give this injection by means of a fountain syringe and long nozzle.

Difficult Breathing.—I have a cow that breathes hard; has been that way since last fall. Seems as if there was something in her head or throat. H. S. IRELAND.

Cayots, Md.

It is impossible to more than guess at the cause of the trouble from the meagre account you give of it. Difficulty of breathing may be due to the presence of a polypus in one nostril, to abscesses of the post pharyngeal glands, tuberculosis, lump jaw, sore throat, paralysis of the cartilages and vocal cords of larynx. It will be necessary for you to write again and describe condition of cow's throat and exact symptoms.

Tardy Wound.—I had a fine 2-year-old colt cut in barbed wire, last fall, between fetlock and gambrel joint. Wound will not heal. SAM STEPHENS.

Winside, Neb.

The covering of the bone, if not the bone itself, was injured by the barb wire cut. It will be necessary to remove any dead tissue or bone found to be present. Poultice for a couple of days with hot flax seed meal to cleanse sore, then scrape away the diseased bone, etc. Afterwards wet the sore three times daily with the following lotion: Chloride of zinc, half ounce; sulphate of zinc, one and a half ounces; water, one pint. When sore is doing well clip hair from around wound for a space of several inches up and down leg and blister with cerate of cantharides. It will not heal if diseased bone or tissue is left in wound.

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MUTILATED PAGE

THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

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Talks on Timely Topics.

Artificial Light and Plant Growth.—Ten or more years ago Prof. Bailey, of Cornell University (Horticultural Department) made a series of experiments to determine the effects of electric light upon plant growth during the long winter nights, and he had greenhouses arranged particularly for this purpose. He found a decided, stimulating effect of such light upon the growth of lettuce and various other plants, but found it necessary to modify the rays by passing them through an opaque globe before they are brought to the plants, in order to prevent injury at least to some plants. The discovery has not been put to general practical use, simply because the maintenance of an electric lighting system merely for the purpose of stimulating plant growth, is a comparatively costly affair. I believe Mr. W. W. Rawson, near Boston, who has the advantage of city arc lights, uses them in his lettuce forcing houses in a commercial way, and with satisfactory results. Recently, Prof. F. W. Rane, at the New Hampshire Agricultural Experiment Station, has conducted a series of tests with acetylene gas light. The effect of this light was found to be more or less marked upon the growth of beets, spinach and cress, but less evident upon peas, tomatoes and potatoes. The lettuce was a trifle taller under the light, and more tender. Not much, if any, difference could be seen with other plants, such as beans, radishes, etc. Prof. Rane reports the following deductions to be made from experiments thus far made: "1. That acetylene gas light has a marked effect upon greenhouse plants. 2. That no injurious effects resulted from the use of acetylene gas light. 3. The light has a stimulating influence on most plants, and appears to be beneficial to some plants that are grown for foliage, such as lettuce. The lettuce stood more erect and weighed more. 4. Most plants tend toward a taller growth under the light. 5. It is doubtful whether this light can be used in the greenhouse from an economic standpoint for growing plants alone. While its effect is marked in the dark days of winter, little difference seems to be shown at other seasons of the year, when there is more sunshine. 6. There are many points about acetylone gas light that make it desirable for lighting greenhouses. It is not expensive, is easily piped, and comparatively simple to run." My own opinion, held for a number of years, and only strengthened and verified by these later tests and reports, still is, that the influence of artificial light upon plant growth is not so decided and marked, that for the present the grower of forced vegetables, except in rare instances and under particularly and unusually favorable conditions, can hope to employ such light for his commercial operations. The subject is interesting as a study, and for further experiment, but can as yet not be considered in an economic sense.

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Serious colds should be antidoted with Jayne's Expectorant.

Current Comments.

Onion Growing.—I have been watching for articles on the culture of onions. Kindly publish something on this subject. Also inform me where I can get a good, reliable book on onions. SUBSCRIBER.

Portersville, Pa.

The subject of onion growing has been frequently treated in these columns. To give full information would require the space of a big book. A new book, "The New Onion Culture," which treats the subject of onion growing in all its phases, will soon be ready for distribution (cloth binding, with many illustrations; price, 50 cents). The large bulk of fall and winter onions are grown by sowing seed directly in open ground in early spring. The ground must be clean, well prepared, and very rich. Seed is sown in drills 12 to 16 inches apart, and at the rate of about 6 pounds of seed per acre. It requires promptness in the use of wheel hoes and hand weeders. For the large, mild bulbs of the Spanish type, the best representatives of which are Prizetaker and Gibraltar, I prefer the newer or transplanting method. Seed is sown on the greenhouse bench or in hotbed in February or March, and the young seedlings transplanted to open ground as soon as weather permits. We set the plants in rows about 14 inches apart, 3 or 4 inches apart in the rows. They can be tended mostly with wheel hoe and common hoe, little hand weeding being required. By this method we grow the mammoth onions similar to the imported Spanish, of excellent flavor, sweet and mild, and always winners on the exhibition table. Prizetaker is a fairly good keeper. Under favorable conditions they will keep well until spring. Gibraltar should be used before winter sets in, or soon after.

German Carp.—Where can I find German carp to stock a pond with fish? Are small fish or old ones best to start with? I made a pond last summer. Are there better fish than carp? FRANK DITTLENNER.

Simpson Co., Ky.

Carp, like bullheads, catfish, etc., like and do best in rather warm, sluggish, stagnant waters. They live mostly on vegetable food, but don't despise worms, insects, fish and frog spawn, etc. The creek close by my house, always, except in high water and freshets, a sluggish stream, is full of carp, some of them of very large size, up to 20 pounds and over. They are also found in the large and swift Niagara River, but mostly in shallow and muddy, places. There are many people around here who appreciate carp as a food fish, and prepare it in various ways, and this almost any time of the year. I do not think much of carp, but am naturally not as fond of fresh water fish as some people are. We sometimes eat the smaller-sized carp when caught in cold water during winter. I believe the bullheads and catfish are better fish for such ponds and sluggish streams than carp. The latter, however, thanks to the efforts of the National Government, have become well distributed all over the country, and it would not be difficult to get a start. If fish have to be shipped a considerable distance, those of about a year's growth should be selected.

Wood Ashes, Nitrogen, etc.—I am in a position where I can collect wood ashes at 5 cents per bushel. As top dressing for spinach we use a fertilizer analyzing: Ammonia, 10 per cent.; available phosphoric acid, 5 per cent.; potash, 2 per cent. We make frequent dressings of about 4 bags per acre (800 lbs.). How would it do to use 12 bushels of wood ashes and 100 pounds of nitrate of soda as a substitute?

Norfolk, Va. K. F. GRANT.

In 800 pounds of the fertilizer mentioned you have about 66 pounds of nitrogen (80 pounds of ammonia), 40 pounds of phosphoric acid and 16 pounds of potash. You probably pay for the 800 pounds at least $20, and then you are not sure of the form in which the "ammonia" is furnished. As plant food, the 800 pounds are rated as worth $16. The 12 bushels of ashes and 100 pounds of nitrate of soda would cost you 60 cents plus $2.40, or $3. In it you have 15 or 16 pounds of nitrogen and 8 to 10 pounds of phosphoric acid and 30 pounds of potash, worth, as plant food, about $4. I would advise to add a hundred pounds or so of dissolved South Carolina rock (acid phosphate, superphosphate) to the ashes and apply them broadcast, at any time, or even a larger quantity of this mixture, and then, when the young plants begin to make growth in early spring, to scatter the nitrate of soda over the patch. This may give as good results as fertilizer.

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Points and Pickings.

Early Tomatoes.—Another year's trial has proved that, for me, Maule's Earliest is the best early tomato for market purposes. To prove satisfactory, it should be planted on very rich soil. Its good points are 1st, early ripening, giving not only a few specimens, but a remarkably heavy crop in time for a market at good prices. 2nd, good quality and form. With good soil and culture there will be but few specimens so rough as to greatly injure them. 3rd, freedom from blossom-end rot. Three years trial with me has found it wholly exempt.

Mt. Vernon, Ill. S. F. MINOR.

Staking Tomatoes. — A friend of the P. F. asks whether it pays to stake tomatoes. This depends upon circumstances. If you intend to plant a large area I would say that it is doubtful. But for a home gardener who plants only one or two hundred plants, I would invariably stake them. It makes them present a much more tidy appearance in the garden. The sight of a half dozen rows of tomatoes staked, and the tomatoes tied to them nicely, viewed from the end of the rows, I consider lovely. In a wet season I believe that staking will prevent the tomatoes from rotting, to some extent, as it lets the air and sun into them better. I always drive a stake down first, then put the pole into this and tramp. The poles I get in the woods and are about one inch in diameter and six feet long. Suffice it to say that while it may not pay to stake tomatoes on a large scale, I honestly believe that it will on a small scale. H. RAY MERCER.

Upton, W. Va.

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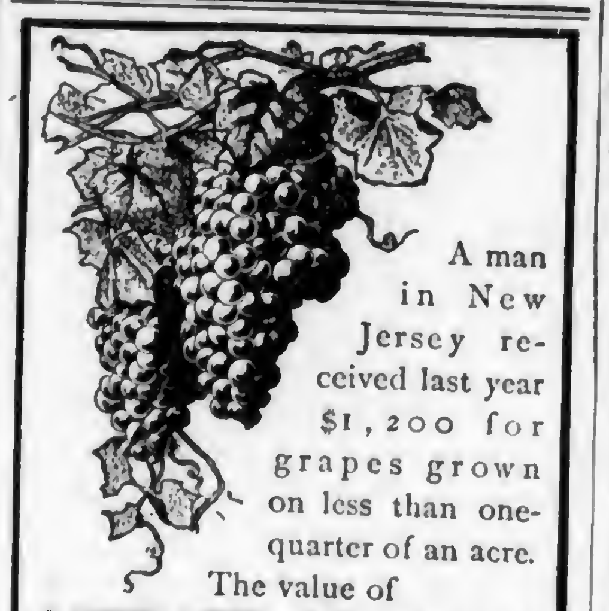

A man in New Jersey received last year $1,200 for grapes grown on less than one-quarter of an acre.
The value of
NITRATE OF SODA
in increasing the quantity and quality of grapes is explained in a paper by
Prof. PAUL H. WAGNER,
copies of which will be sent free.
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Everything for the Fruit Grower. Catalog FREE.
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Good stock. Prices right. Catalogue free.
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A Priceless Book Sent Free for the Asking.
Piles Cured Without Cutting, Danger or Detention From Work, by a Simple Home Remedy.
Pyramid Pile Cure gives instant relief and never fails to cure every form of this most troublesome disease. For sale by all druggists at 50c. a package. Thousands have been quickly cured. Ask your druggist for a package of Pyramid Pile Cure, or write for our little book which tells all about the cause and cure of piles. Write your name and address plainly on a postal card, mail to the Pyramid Drug Co., Marshall, Mich., and you will receive the book by return mail.

Cancer of the Breast Yields to the Combination Oil Cure after All Other Means Fail.
BROWN'S VALLEY, CAL., Mar. 24, 1902.
To Whom it May Concern:
For the benefit of those who may be afflicted with Cancer, I will add my testimonial to the many which have already been written. In the beginning of December, 1899, I noticed a lump in my left breast. I consulted one of our local physicians. He pronounced it a benign tumor, and said it could be removed by internal remedies. I treated with him until the beginning of May, 1900. Realizing that I was steadily growing worse instead of better, I decided to go to San Francisco for treatment. On the 18th of May I entered a sanitarium and on the 20th underwent an operation, having almost one half of the breast removed. The following November the cancer returned. I decided I would then try having it drawn out, but while preparing to go away I came across Dr. D. M. Bye's advertisement in the *Christian Herald.* I consulted him, got his remedies the latter part of January, 1901, and after using a little over two months' treatment the cancer had entirely disappeared and so far there is no sign of its reappearance.
In conclusion I will say that in my dealings with Dr. Bye I have found him to be an honest, conscientious man, and I will gladly recommend his remedies wherever I go. Any one doubting the truth of this testimony may write to me at the address given below.
MRS. CHARLES BURRIS,
Brown's Valley, Yuba Co., Cal.
The Combination Oil Cure for Cancer and malignant diseases was originated and perfected by Dr. D. M. Bye. It may be used with entire success at home. Those interested may secure free books and papers by addressing the Home Office, DR. D. M. BYE CO., Drawer 505, Indianapolis, Ind.

Strawberry Plants. We have them true to name all grown on new ground, consequently, are healthy and strong. Send for cir. Address Fruitful Plant Farms, John Lightfoot, Prop., Sherman Heights, Tenn.

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Grenloch, N. J.

Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

English Hollies.

Of recent years a great many English holly bushes are imported annually into most of our large cities for Christmas use. They are usually beautiful specimens, grown in pyramid shape, and full of berries. What with the confinement of the voyage, the potting and the hauling about from place to place, and then the confinement indoors for the Christmas period, but few of those choice specimens live. And then, many supposing them not hardy, make no effort to keep them after their indoor service. Speaking for the vicinity of Philadelphia, this holly is hardy. I have heard of them being injured in very exposed places, but have never seen a case of it. They are rarely seen planted out, but this is chiefly because it is believed by many that they are not hardy. That this is erroneous there are several very large ones in this vicinity to prove. Some may think what is the need of this holly when we have a native one to give us pretty berries. But the English is very much prettier. The foliage is of a bright, glossy green, lovely to look on in winter, and setting off the scarlet berries to great advantage. It certainly deserves to be planted wherever it will thrive. This holly, as well as all other kinds, does not transplant well. In the case of the holiday plants referred to, just as soon as their use indoors is over they should have every leaf cut off and be set in a cool, damp cellar or shed. If to be planted out, treat them the same way. In fact, at any time when transplanting hollies, cut off all the leaves. It won't hurt the plants, and five times out of ten may be the means of preserving them. And a good pruning at the same time is another means of helping them to live.

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Horticultural Queries.

Cutting Down Raspberries.—Please tell me what I must do with my Cuthbert raspberries. I read in the P. F. to cut them down to 24 inches after fruiting. I did so, and they have grown and branched out and bloomed, and now they are six feet tall. Must I cut them down again or leave them alone until after fruiting? SUBSCRIBER.
Chesterfield, Va.

If you saw in the P. F. that the Cuthbert raspberries should be cut down to 24 inches after fruiting, it must have been in the mind of whoever recommended it, that by cutting them down in that way it would permit the new canes to grow the stronger. Those that fruited last year are of no use for this season. Cut them down to the ground, depending on the young canes which grew last summer for fruit this year. Cut out all old canes: and when spring comes cut back one-third the young canes of last year's forming, then you will get fruit.

Sundry Queries.—1. Will some reader of the P. F. please tell me how to propagate raspberries? 2. Please give me some instruction for budding peaches and plums in June. Will plums budded on peach stocks in August, 1902, be large enough to transplant in November, 1903? 3. I would like some information as to what varieties of raspberries are the best. Does the Columbian sucker, or does it propagate from the tips? What is the best blackcap for main crop?
Zionville, N. C. M. W. ELLER.

1. You can increase raspberries by digging up pieces of root, cutting them into lengths of about three inches, and setting them in rows, just under ground, in early spring. Also by digging up carefully the young canes which sprout up around the old ones. Dug up when about a foot above ground will answer, if carefully done, but it may be safer to leave it until the canes are thoroughly ripe, in October. You can raise them from seed, but it requires much care, and in a commercial way would not pay you. In this section we prefer the Cuthbert for general purposes. 2. Use the lower buds on the new shoots, those that show a perfect eye. In a few weeks after budding, when the bud has taken hold, cut away the top; the bud then starts ahead at once, instead of lying dormant for the whole season, as it does when budded in the Autumn. I have never experimented with plums, but peaches make very nice salable plants by autumn, usually being about three feet. Answering your inquiry as to the size of plums on peach in November, 1903, which were budded in August, 1902, I should say three to four feet. 3. The Columbian raspberry belongs to the section which is propagated by suckers and not from the tips. It is a hardy, robust kind and productive; the fruit is large, dark red. But good as it is our market gardeners prefer the Cuthbert for general purposes. We also think the Gregg is the best of the black cap varieties, the fruit being large, of good quality and the canes strong and foliage healthy. Locality does not suit all kinds alike and though these are very good sorts for us, some of our North Carolina correspondents may know some better ones for your section.

Pruning.—I have some pear trees that have not been pruned for eight years, possibly longer. My idea was to give them a severe pruning. J. L. MITCHELL.
Arcadia, Miss.

The pruning you propose would be beneficial, without a doubt. Prune to give them a good shape, and if the branches you cut away are over an inch thick you had better paint the scars. The trees have been overbearing, probably, accounting for the small fruit. The cultivation will do them good; and the fear you express of losing the trees by it need not be entertained. It is bad to introduce borers where they have never been; still let us hope you get rid of all of them. There may have been borers in your vicinity before, but you may not have had the fruit trees they infest. There are certain fruit trees not interfered with, and others the pest delights to attack.

Red Spiders.—Last year my Moons Arctic plums commenced falling off when about half grown. The leaves also turned brown and fell off. Upon looking them over I found lots of very small red insects. Could hardly see them with the naked eye.
Prospect Harbor, Me. C. Y. BUNKER.

Out-door trees will often be attacked by red spider, a terrible pest to florists in their greenhouses in summer. These spiders delight in dry times. Sometimes another insect, aphis, will change from their normal green color to a reddish hue, the juices of the plant they suck seeming to determine their color in many cases. Your plum fruit may have fallen off because of having been stung by insects, by rotting caused by fungus, or because of the loss of leaves. Any one of these causes may be the right one, or all three may have helped. What you must do is to spray your trees well. Give them a good dose of Bordeaux mixture before the buds burst, then combine the Bordeaux with Paris green and spray with this just as flowering is over, and later on, in early summer, spray again with this mixture. As the leaves fell off in mid-summer last year the trees will push weakly this year, and should not be permitted to carry much fruit should much set.

Prunes in Pa.—Having purchased some nursery stock to be set out the coming spring, I got two prune trees just to see if I could raise them. Could you give some directions for the culture of prunes, and if you think they can be successfully raised here?
Annim Creek, Pa. H. H. EVANS.

By prune, I suppose you mean the German prune. This is but a plum, as, no doubt, you know, and you must treat the trees just as you would any other plum trees. Ordinary plums do well with you, no doubt, and this being the case, the prunes will also. The curculio stinging the fruit will give you trouble, but if you have followed reading the P. F. pretty closely you will know how to get ahead of them.

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McCormick corn machines enable the farmer to double the value of his corn crop. He gets two profits instead of one.

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Hatching Early Chicks.—The most important problem before the poultry raiser now is how to get a few big hatches of early chicks which can be pushed and developed into layers by next October. The profits of next winter depend upon attending to this now. And it can be done. Feed green cut bone regularly and you will get a good supply of fertile, hatchable eggs—eggs which produce vigorous chicks. Feed green bone to the chicks and they will develop rapidly. Humphrey & Sons, Box 38, Joliet, Ill., have a good circular on this subject which every egg producer ought to read. Send for it. It is free if you mention the P. F. when writing.

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German Potash Mines.—The pamphlet "Stassfurt, Industry," just published, contains an interesting description of the famous potash mines in Germany, from which all the potash imported into this country and used for manuring, is derived. The chapter about the use of potash in agriculture as one of the important ingredients of a complete fertilizer, adds largely to the value of the book, and among the many fine illustrations those showing the experiments at Southern Pines, N. C., are of particular interest to practical farmers. Copies of this pamphlet can be had free, by writing to the German Kali Works, 93 Nassau St., New York, N. Y., and mentioning the P. F.

VERY FEW PEOPLE

Are Free From Some Form of Indigestion.

Very few people are free from some form of indigestion, but scarcely two will have the same symptoms.

Some suffer most directly after eating, bloating from gas in stomach and bowels, others have heartburn or sour risings, still others have palpitation of heart, headaches, sleeplessness, pains in chest and under shoulder blades, some have extreme nervousness, as in nervous dyspepsia.

But whatever the symptoms may be, the cause in all cases of indigestion is the same, that is, the stomach for some reason fails to properly and promptly digest what is eaten.

This is the whole story of stomach troubles in a nutshell. The stomach must have the rest and assistance and Stuart's Dyspepsia Tablets give it both by supplying those natural digestives which every weak stomach lacks, owing to the failure of the peptic glands in the stomach to secrete sufficient acid and pepsin to thoroughly digest and assimilate the food eaten.

One grain of the active principle in Stuart's Dyspepsia Tablets will digest 3,000 grains of meat, eggs or other wholesome food, and this claim has been proven by actual experiment, which anyone can perform for himself in the following manner: Cut a hard-boiled egg into very small pieces, as it would be if masticated; place the egg and two or three of the tablets in a bottle or jar containing warm water heated to 98 degrees (the temperature of the body) and keep it at this temperature for three and one-half hours, at the end of which time the egg will be as completely digested as it would have been in the healthy stomach of a hungry boy.

The point of this experiment is that what Stuart's Dyspepsia Tablets will do to the egg in the bottle it will do to the egg or meat in the stomach and nothing else will rest and invigorate the stomach so safely and effectually. Even a little child can take Stuart's Tablets with safety and benefit if its digestion is weak and the thousands of cures accomplished by their regular daily use are easily explained when it is understood that they are composed of vegetable essences, aseptic, pepsin, diastase and Golden Seal, which mingle with the food and digest it thoroughly, giving the overworked stomach a chance to recuperate.

Dieting never cures dyspepsia, neither do pills and cathartic medicines, which simply irritate and inflame the intestines.

When enough food is eaten and promptly digested there will be no constipation, nor in fact will there be disease of any kind because good digestion means good health in every organ.

The merit and success of Stuart's Dyspepsia Tablets are world-wide and they are sold at the moderate price of 50 cents for full sized package in every drug store in the United States and Canada, as well as in Europe.

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TREES. PLANTS. VINES. 300 acres of them. All kinds and varieties. Smooth, clean, strong-rooted stock at lowest prices. 33 years experience. Special terms to club makers. New catalog free. Write for it before you forget it. GEO. A. SWEET NURSERY CO., Box 1611, Dansville, New York.

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POULTRY.

This department is under the editorial charge of A. F. Hunter. All letters, inquiries and requests should be addressed to him at the Practical Farmer office, P. O. Box 1317, Philadelphia.

A Pretty Good Profit.

A great many P. F. readers would think that they had done pretty well if their poultry profit reached $945 last year, and that much clear profit had been made from 475 hens; a net profit of close upon two dollars per hen is quite satisfactory, but in the case we are now considering even that good profit could have been bettered. If one's living for himself and family had to come out of the $945 there is an assurance of real comfort in that sum; the majority of families in America live upon a considerably smaller sum! In this case, h wever, the man made his living in his country store and post-office, and the poultry work is his pastime, his recreation as it were. The first thing the incredulous reader will say is that our friend had especial advantages in the way of good markets, or raising the bulk of the food, or something of that nature; nothing of the kind favored him. He lives something like a hundred miles north of Boston, well up among the New Hampshire hills; he is seven miles back from the railroad and everything he sends to market, as well as every pound of grain his hens eat, has to be hauled over those seven hard, hilly miles! Nothing very favorable about that! Neither does he get fancy prices for his product; all of his eggs and poultry are sent to a commission dealer in Boston and sold at the going market price. In fact, it was through this Boston commission dealer, a schoolmate of mine, that I became acquainted with the story, and was so interested in it I took the first opportunity to make the man a visit; and a very pleasurable visit it was—to me! Being a business man, this country storekeeper, he keeps a carefully itemized account of expenses and receipts, and he knows to a cent just what his eggs cost him and just what the returns were; even the postal cards to send notice to the dealer that a case (or cases) of eggs are shipped, are down in the account. He closes his poultry account November first, and here is the balance sheet for last year—

Nov. 1, '01, to Nov. 1, '02.

DR.

550 hens and pullets on hand	$137.50
31 cockerels	7.75
Breeding cockerels bought	7.10
Feed, freight and cartage	777.11
	$929.46

CR.

70,399 eggs laid during year	$1,429.31
Poultry sold	298.32
100 birds used by family	000.00
558 hens and pullets on hand	139.50
30 cockerels	7.50
	$1,874.63

Balance (profit).....$945.17.

The figures are extremely interesting. Mr. D. started the year with 581 pullets, hens and cockerels, killed and ate about 100 (so that his "average" number for laying was about 475) and ends up the year with 588 birds on hand. The valuation given them is absurdly low, 25 cents apiece, but, as he sets the same figure for the old and the new, for both the going and the coming, it is perfectly fair. As most of the stock is White Wyandottes and Rhode Island Reds, with some White Leghorns, and as the bulk of them are well grown pullets, it is safe to say he could get four times his appraisal of them if he cared to sell; in fact, they are worth double his figure to sell to market at the per-pound price! Mr. D. makes no account of the about one hundred birds dressed and eaten, nor does he mention the two or three hundred bushels of rich poultry manure that they make him; the figures are only of the cash coming in and going out. The egg yield was a pretty good average for a flock, 148 eggs apiece; and we estimate a cost of about $1.25 each for food, the balance of food expense being for raising the chickens.

Mr. D. has been keeping hens sixteen years, since 1886, and has been almost continuously growing, and has had a good profit to place to the credit of poultry each year. Here are the figures:

Year	No. Hens	Profit
1887	94	$144.03
1888	175	222.85
1889	140	236.82
1890	200	456.63
1891	225	330.00
1892	175	241.61
1893	185	291.03
1894	200	250.76
1895	325	469.04
1896	450	533.02
1897	450	474.23
1898	400	426.42
1899	475	639.12
1900	450	605.50
1901	475	675.21
1902	475	945.17

In these sixteen years Mr. D. has made $6,941.44 profit from his poultry work, and, in addition, has paid out $5,275 for grain and supplies; the gross earnings for the time being $12,216.44. Isn't that a pretty fair showing for the time spent in recreation, as a pastime? He says it averages three hours a day; isn't that a good return for that much time given to light labor? Mr. D.'s whole "farm" doesn't comprise over two acres of land, but he is favored in being able to hire an adjoining bushy pasture over which he lets his growing pullets range in summer. He pays a small rental for this pasture, less, probably, than the interest and taxes, but the owner could better afford to pay him something to put the chickens in there because they are steadily enriching it with their droppings and keeping the insects and worms subdued. But we must make a continued story of this.

OVER 100,000 POULTRY MEN ARE USING M.M.S. Poultry Fencing. It requires few posts, no top or bottom rail, will not sag or buckle and is easily erected. Stronger, b tter and cheaper than O. S. netting. Can ship from New York, Chicago or San Francisco. Write y ur wants to get our close-to-cost delivered prices. CASE BROS., COLCHESTER, CONN.

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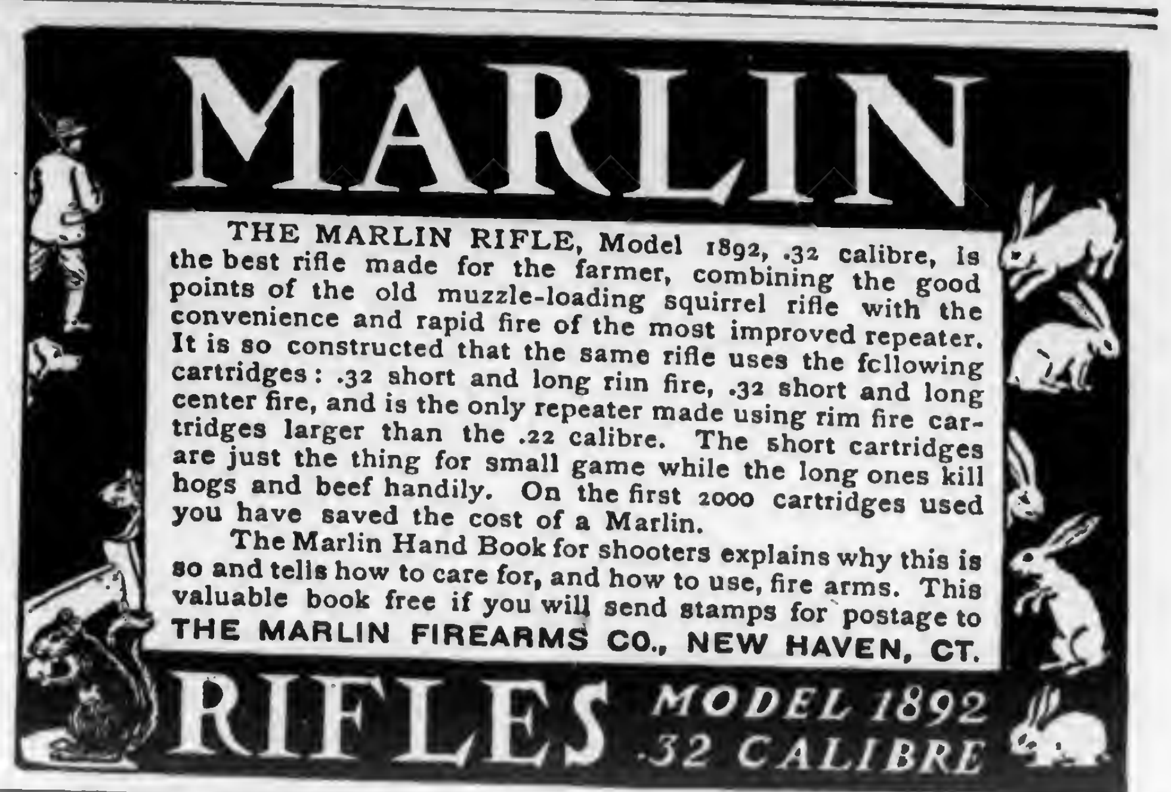

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FOUNDED IN 1855
Published Weekly by The Farmer Co.
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Philadelphia, Pa.
Entered at the Philadelphia post office as second-class matter.
PROF. W. F. MASSEY, Editor.

Philadelphia, February 21, 1903

A FRIEND sends us a copy of the P. F. published in the Centennial year, 1876, and says that her father has taken it all this time, and still takes it. Looking over this ancient copy, we have no reason to be ashamed of the paper as it then appeared, nor of the advance it has made in the meantime. It started as a good, practical farm paper, and we hope to keep up its reputation in this line. The paper has grown and improved, but it had a respectable start, and has never been poor.

◆

SEEDSMEN will now have less to complain of in the Government seed distribution, as the Secretary buys his seed in the open market, and not by contract, and employs contractors only for the mechanical work of packing and shipping. The machine that puts the seed in the bags is a wonder of accuracy. It weighs the amount for each paper, opens the paper, puts in the seed and folds and seals the package ready to go, and every package, in thousands of the same kind, weighs exactly the same thing. The Secretary proposes to send out the novelties in seeds that the seedsmen offer till they are well known, and then leave their further distribution to the trade. The present system seems to be an improvement, if there can be any improvement in what is essentially a humbug.

◆

THERE are some men who always imagine that everything is going to the bow-wows unless it is managed by them, or in their way. One writer in the agricultural papers thinks that the admirably organized system of Farmers' Institutes in Pennsylvania is utterly worthless and inefficient, mainly, it would seem, because this gentleman's name is conspicuously absent from the list of speakers. Some men are happier when a little Ismaelitish, and we do not suppose that the Pennsylvania Institutes are so very unfortunate in the absence of some people. The fact is, that the thing that most impressed this Editor on his recent visit to Harrisburg was the earnestness and sincerity of the officers of the Agricultural Department there. The evidence of the good work that is being done is the great value and number of the publications that have been issued for the Farmers of the State. We know of no State Department, except that of Kansas, which is issuing so many publications of value. And yet, even in Pennsylvania, there is the dog in the manger.

◆

A Wonderful Plant.

We always add a few grains of salt to the wonderful accounts of vegetation in other countries when we find these in the general press. According to Hoard's Dairyman, the Saturday Evening Post gives a glowing account of a new forage plant that has been just discovered in Egypt by Dr. Fairchild, who is looking for new things for the Department of Agriculture. The wonder is that this plant has remained unknown here since it is said that a million acres of it are grown in the Nile Valley, where it is one of the most conspicuous crops. According to the account in the Dairyman, it is known as "Beerseem," and also as Egyptian clover. This last name seems to throw some light on it, and we would warn our readers not to get too enthusiastic over the Egyptian clover. We tested this plant some years ago under the name of Trifolium Alexandrinum. It is similar in appearance to the well-known crimson clover, except that the heads are pale flesh color. When the crimson clover was first introduced there was a great deal of this Egyptian clover mixed with it, but it soon disappeared here, because it is too tender to stand the winters, even in the Carolinas. Hence we would go very slow with the Egyptian clover anywhere where there is any freezing. Of course we may be mistaken in our surmise, but it is a little odd that a forage plant that is grown in Egypt by the million acres should be so long unknown to our enterprising seedsmen. The fact, we believe, is that the seedsmen have had it and found it worthless here.

◆

Newspaper Agriculture and Horticulture.

The men who get up the news for the daily press, and who prepare matter for general reading for the interesting weeklies, are, as a rule, bright, well educated and intelligent men. They are well posted on every subject under the sun till it comes to agriculture and horticulture. Just as soon as the average newspaper man tries to print something on these subjects he is at the mercy of every crank, and is ready to print the most arrant nonsense, and not only to print it, but to believe it implicitly. Some fellow gets up a secret formula for making a fertilizer out of nothing, and the newspaper man advises his readers to use "Professor" So-and-So's recipe, though the so-called professor never had a college chair nor any claim to be called a professor. Then some fellow comes around with a wonderful yarn about killing all the insects on trees with a dose of calomel inserted in the growing tissues, and the newspaper man takes it all in and talks about the wonderful advances that are being made in vegetable therapeutics, not once dreaming that the insoluble calomel could have no possible effect on the tree. And yet there is not a season that passes in which the gentle newspaper man is not taken in by something of the sort. Just now there is a new outbreak of the vegetable hypodermics, and papers which ought to know better, have serious articles in regard to curing the ills of trees by putting things under the bark. No matter how a thing violates every principle of vegetable physiology the average newspaper man will take it up and believe it. It would be a good training for young newspaper men if they could take a course in the study of plants and their structure and functions before entering into their work as reporters. They might then avoid showing their amazing ignorance as soon as they have to write anything about farming or gardening.

◆

Tramps.

A friend in Colorado takes the Editor to task for what he said about tramps in the summary on that subject in the Experience Pool. He quotes to us what one Pennsylvania politician says about another Pennsylvania politician and his work, and seems to intimate that the tramps are the result of the work of certain politicians, and seems to want the Editor of the P. F. to express an opinion about certain political conditions. We are not going to do anything of the sort, for the P. F. has nothing whatever to do with party politics and does not intend to be drawn into the commendation of one set nor the condemnation of the other. Our work is the uplifting of the American farmer to better methods of farming, and we have nothing to say in regard to political movements in Pennsylvania or elsewhere. Like every other man who has decided opinions on questions of public policy, the Editor might say some things that would offend some of his readers who think differently. Therefore, no matter what his political opinions are, they will never appear in the P. F. So far as tramps are concerned, the man, in these times, who will not work, though able to do so, is entitled to no consideration at all. As we said in the summary, anyone can easily distinguish between a man honestly seeking for work and the worthless hobo, who merely preys on the public. It was evident from the letters published in the Pool that most people feed them because they are afraid of them, and in this way they keep up tramps.

◆

The Average Farmer.

Statistics show that in all the States there are a majority of farmers who do not raise paying crops. These are the men whose farming so reduces the average in the statistics published. Virginia, North Carolina and South Carolina show an average product of five bushels of wheat per acre. Now, as we happen to know of many farmers in these States who make large crops of thirty to forty bushels per acre, what must be the size of the crops which reduce the average to five bushels? The other cereal crops are affected in the same way by these men who make the averages, and one wonders why they do not starve and drop out of the procession entirely. These census figures are sometimes curious in another direction. For instance, they show that for ten years the average crop of hay per acre has been larger in North Carolina than in Iowa or New York, and yet the amount of hay grown does not anywhere near compare with that produced in the States named. But it shows that hay can be made in the South as profitably as in the North. But in every State it is the average farmer who plays the mischief with the statistics of the State's products. There must be fewer of these average farmers in New England than elsewhere, for the average corn crop there runs up several times over that of the South with its naturally better soil and a far better climate. But the average farmer everywhere reduces the crops published in the census reports for this State, and the problem in American agriculture today is how to reach this average man and uplift him to better methods. The cropping system in the South is largely responsible for the low averages, and so long as lands are owned in large bodies and parcelled out to be scratched over by tenants whose sole capital consists of a mule and plow, there will be little improvement in the statistics. In all the States the great need is for faith in the soil, and the judicious investment of capital in good farming. Then, when the colleges and Farmers' Institutes have raised the standard of education among the tillers of the soil we will find the average farm making a higher average. In a State where one man who farms well can make over 40 bushels of wheat per acre, there is little excuse for the existence of the man who runs the average down to five bushels per acre, and the sooner such a farmer is obliged to hire his labor to better farmers the better it will be for him and for his State.

Our Business Corner

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HENRY HARRIS, Business Manager.
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Those Blocks of Six.

Are coming in in a manner that is decidedly encouraging. It leads us to suggest that those of our friends whose subscriptions expire this month will do the right thing, if when sending their renewal, each one will include the names of five of his neighbors, and thus make up one of these clubs. Only two more numbers of the P. F. will be sent to those whose subscriptions expire this month, unless their renewals reach us before the end of the month; but that will give each one time to make up a club. It will take but a short time to do it, and for your trouble you have the choice of any one of the premiums we give for a club of six. And you and your friends only pay 50 cents per year for the paper, just half of the regular price. Every friend whose subscription expires this month should, because they could, make up at least one of these clubs. Friends, it's up to you!

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Hoard's Dairyman	$1	
The P. F.	$1	1.90
Breeder's Gazette	$2	
The P. F.	$1	1.25
Chicago Weekly Inter-Ocean	$1	
The P. F.	$1	1.50
The Commoner.	$1	

COMMERCIAL

Philadelphia, Feb. 14, 1903.

WHEAT.—

The market was quiet but steady under light offerings. Exporters had few orders, and these were limited too low for business. The world's visible supply, as calculated by Bradstreet's, showed an increase of 1,400,000 bushels.

No. 2, red	79 @ 79½
No. 2, Penna. and Del.	80 @ 80½

CORN.—

The market ruled firm under light offerings, but there was not much doing. A fair inquiry prevailed for export, but business was restricted by the lack of available supplies. Sales of 60,000 bushels No. 2 mixed, in parcel lots, for prompt loading on private terms.

No. 2, mixed	54 @ 54½
OATS.—	
No. 2, white clipped	44½@ 45
BUTTER.—	
Best prints	27 @ 28
Firsts, creamery	26
Seconds, creamery	24 @ 25
Ladle packed	17 @ 20

CHEESE.—

Receipts, 223 boxes. There was a fair business in small lots to tide over current wants, but little disposition to anticipate requirements. Offerings were moderate and prices ruled steady.

Full cream, choice, small	14 @ 14¼
Full cream, fair to good	13¼@ 13¾
Part skims	10 @ 12
LIVE POULTRY.—	
Fowls, choice, per lb.	14 @ 15
Spring chickens, per lb.	13 @ 14
Ducks, per lb.	14 @ 15
Geese, per lb.	13 @ 15
Turkeys, per lb.	15
DRESSED POULTRY.—	
Fowls, per lb.	12½@ 14½
Chickens, per lb.	14 @ 17
Turkeys, per lb.	17 @ 21
Ducks, per lb.	16 @ 20
Geese, per lb.	11 @ 13
EGGS.—	
Nearby fresh, at mark	19
Western, choice	17 @ 19
FRESH FRUITS.—	
Apples, per bbl.	1.25 @ 3.50
Cranberries, Cape Cod, bbl.	11.00 @ 12.00
Cranberries, Jersey, crate	3.00 @ 3.50
Oranges, Fla., per box	3.00 @ 3.50
Grape fruit, Fla., per box	3.50 @ 6.00
VEGETABLES.—	
White potatoes, Pa., per bu.	65 @ 70
White potatoes, West., bu.	55 @ 60
Sweet potatoes, Jer., bas.	50 @ 60
Cabbage, per ton	7.00 @ 9.00
Onions, per bbl.	1.35 @ 1.60
BEANS AND PEAS.—	
Marrows, H. P., per bu.	2.70
Pea beans, H. P., per bu.	2.35
Red kidneys, per bu.	3.00
Green peas, per bu.	1.65 @ 1.70
Scotch Peas, per bu.	1.70 @ 1.75
HAY AND STRAW.—	
Timothy, choice, large bales	18.50 @ 19.00
Straw, straight rye	17.50 @ 18.00
Straw, tangled	12.00 @ 13.50
Wheat	10.50 @ 12.00
Oat	9.50 @ 11.00
FEED.—	
Bran, bulk, winter, per ton	20.50 @ 21.00
Bran, sacked, spring	20.50 @ 21.00
COTTON.—	
Middling upland, cwt.	9.50

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle steady to a shade easier.

Extra steers	5½@ 5¾
Good steers	4¾@ 5¼
Medium steers	4½@ 4⅞
Common steers	4 @ 4⅜

CALVES.—

Veal calves, prime stock, about steady.

Extra calves	8¾@ 9
Fair to good	7 @ 8½
Poor and common	5 @ 6½
Grassers	3½@ 5

HOGS.—

Hogs firm.

Fat hogs, Pa., Del. & Md.	7 @ 8¾
Fat hogs, Western	9¼@ 9½

SHEEP.—

Sheep and lambs strong and active.

Sheep, extra wethers	4¾@ 5
Sheep, good	4¼@ 4¾
Sheep, medium	3½@ 4
Sheep, common	2½@ 3¼
Lambs	4½@ 6¾

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The New York Market Review.

Receipts of butter the past week have reached an unusual figure, and the market has been supplied with all the fancy creamery it could possibly use. A decline in price did not increase the demand to any appreciable extent. The fancy creamery is taken more or less by local storage houses at 25 and 26 cents, and the bulk of the remainder is peddled around among dealers. On the other hand, reports from the country indicate that the making of butter is not increasing much, and this tends to keep dealers from urging sales. In lower grades of butter the market is more uncertain. About a thousand packages of butter were shipped to England experimentally, but there are no returns yet to indicate the success or failure of it. Manufacture of cheese is also very limited, and receipts for the week were only 8,200 boxes, while 3,509 of these were used to supply the immediate export demand. The local consumption of cheese is moderate, and supplies small, with all fine full cream and light skim cheese firm.

The poultry market is in good condition, and this is due much to the quiet and steady increase in consumption as to moderate receipts. In live poultry turkeys are not plenty, and good fat fowls are firm, as well as ducks, but geese are plenty and rather tame. Fresh killed and dressed turkeys are very irregular in quality and quantity, but when stock arrives in the pink of condition it is easily sold at outside prices. Fancy dressed ducks are scarce, but geese are quiet. Fancy nearby broilers are in demand and firm, but roasting chickens are rather slow, especially for those below fancy. Soft-meated Western chickens have a fair outlet. Capons are plenty and easy, with stock accumulating. Squabs are firm. Eggs have suffered a relapse, but at the close the market is fairly firm in spite of heavy arrivals. There are large quantities of refrigerator eggs offered, and this hurt the sales of fresh stock.

Prices for grain have fluctuated a good deal within narrow limits the past week, and the market at the close is alternately weak and firm without any special significance. Corn has more than once given strength to wheat, and the bullish feeling noticed in corn has carried wheat up a cent or two twice the past fortnight. The car service has improved so that shipments of grain are more regular, and the receipts of wheat at the mills has helped the flour trade. While there has been no scarcity of flour here the rumors of a famine in this commodity had the effect of advancing prices on the seaboard. The total receipts of wheat are thus larger and exports moderate. Corn is bought freely, and exports are large and active. Europe is ready to buy all the corn offered at current rates, and the shipments would be much larger if dealers did not advance prices every time exporters attempted to bid for cash stuff. The heavy increase in domestic stocks of corn did not in any way frighten exporters. There has been quiet jobbing trade in domestic beans, and prices are ruling steady. Imports of European beans to supply the deficiency of the supply amounted to over 8,000 bags, and exports of State beans were 876 bbls. Advances have been made on a few choice lots of domestic beans. Hay has come forward more freely, and while much of it is trash and unsalable stuff, prime hay is in better supply, and steady at $1.05 per 100 pounds. The general outlook for spring trade is excellent. Straw continues firm and active at 70 and 80 cents for good long rye. There has been a little more activity in hops, and prices show a hardening tendency; but brewers are very conservative in their purchases. Domestic potatoes have been heavy and in liberal supply. The imports of potatoes are moderate, and prices weak. Choice onions have a fair demand, but quality is very irregular. Prices for wool are holding up steady, but there is no great activity. The London auction sales of wool have steadied prices a little here.

G. E. W.

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New York, Feb. 14, 1903.

WHEAT.—	
No. 2, red	82⅞@ 83¾
No. 1, Northern Duluth	89⅝
CORN.—	
No. 2	62½
No. 2, white and yellow	58 @ 58½
OATS.—	
No. 2, white	44½
HAY.—	
Prime, large bales, 100 lbs.	1.05
BUTTER.—	
Creamery, extra	26
Creamery, firsts	24 @ 25
Creamery, seconds	22 @ 23
State dairy, tubs, fancy	23½@ 24
Light skims, large, choice	11½@ 12
CHEESE.—	
Full cream, small, fancy	14¼@ 14½
Full cream, large	13½@ 14¼
Light skims, small, choice	12¼@ 12½
LIVE POULTRY.—	
Ducks, per pair	80 @ 1.00
Geese, per pair	1.50 @ 1.87
Fowls, heavyweights, per lb.	15
Turkeys, per lb.	13 @ 14
DRESSED POULTRY.—	
Spring turkeys, per lb.	17 @ 19
Spring chickens, per lb.	16 @ 25
Spring geese, per lb.	10 @ 12½
Fowls, good to prime, per lb.	11 @ 14
Squabs, poor to prime, doz.	2.00 @ 3.75
EGGS.—	
State and nearby	18 @ 21
Western	18 @ 19
GREEN FRUITS.—	
Apples, per bbl.	1.25 @ 4.00
Cranberries, per bbl.	10.00 @ 12.00
Cranberries, per crate	2.50 @ 3.00
Oranges, Cal., per box	1.50 @ 2.75
Oranges, Florida, per box	2.50 @ 4.50
Strawberries, Fla., per qt.	15 @ 25
VEGETABLES.—	
Beets, Fla., crate	1.00 @ 1.12½
Cabbage, Danish, per bbl.	60 @ 70
Cabbage, red, per bbl.	90 @ 1.00
Cauliflower, Cal., per crate	1.50 @ 2.00
Celery, Fla., per case	1.50 @ 2.25
Celery, Cal., per crate	3.75 @ 4.50
Eggplants, Fla., per crate	1.00 @ 2.50
Lettuce, So., ½-bbl. basket:	
Fancy	3.00 @ 4.00
Fair to good	1.75 @ 2.50
Lettuce, New Orleans, bbl.	2.00 @ 3.50
Lettuce, Romaine, per bbl.	4.00 @ 6.00
Peas, Fla., 1-3-bbl. basket	2.50 @ 3.50
Peas, Cal., boxes	2.00 @ 2.50
Radishes, per 100	2.50 @ 3.50
Spinach, per bbl.	1.00 @ 1.25
String beans, Fla., per crate	2.00 @ 3.00
Squash, Hubbard, per bbl.	1.25 @ 1.50
Turnips, Russia, per bbl.	75 @ 85
Tomatoes, Florida, carrier	1.50 @ 3.00
Onions, yellow, per bbl.	1.75 @ 2.00
Onions, white, per bbl.	4.00 @ 5.00
Onions, red, per bbl.	1.50 @ 1.62½
POTATOES.—	
Maine, per sack	2.00 @ 2.25
Long Island, bulk, per bbl.	2.00 @ 2.25
Jer. and up-river, per bbl.	1.75 @ 2.00
State & West, bulk, 180-lbs.	1.75 @ 2.00
Sweet potatoes, Jer., per bbl.	3.00 @ 3.75
Sweet potatoes, per basket.	1.00 @ 1.37

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WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.	
XX and above	30@32
X	28@29
Medium	30@32
Quarter blood	30@31
Common	26@28
UNWASHED (light and bright.)	
Fine	19@22
Medium	22@23
Quarter blood	22@23
Coarse	20@21
UNWASHED (dark colored.)	
Fine	16@17
Fine medium	17@19
Medium and quarter	19@20
Coarse	17@18
COMBING AND DELAINE FLEECES.	
Washed fine Delaine	33@34
Washed medium	30@32
Washed low	30@31
Washed coarse	27@28
Unwashed medium	23@25
Unwashed quarter blood	23@25
Braid	21@22

◆

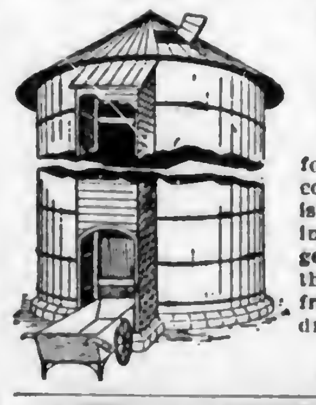
Think of Yourself.—It is the man or woman who studies the advantages offered to them who usually makes the greatest success of life. There is no use working and slaving the best years of your life away in these modern times. It is so easy to take advantage of scientific inventions which tend to lighten work and make everything easier for those who will avail themselves of the opportunities so offered. This is particularly so in connection with washing. Washing has always been a labor most dreaded by every housewife; and well it might be, for there is scarcely any other work so exhaustive and so detrimental to the general health of womankind. In fact, it is a tax far too severe for the majority of housewives, and has driven many a good woman to an early grave. It does seem, therefore, that every woman who studies her own life and the welfare of the family dependent upon her, would be particularly interested in the advertisement of the "1900" Washer Company, which appears on the back page of this issue. Here is a company which is doing wonders toward making the American homes happier, simply because it is giving to them a machine which does away with so much hard work. The washing machine which this company sells, is one of the most scientific inventions of the day, guaranteed to wash all garments well and without the slightest injury. It is built of the best material, by the most skilled mechanics, and after the most severe and lasting test has proven a positive success. That the company is thoroughly reliable is proven by the fact that they offer you a free trial of the machine. All you have to do is to send your name and address and they will deliver the machine to you absolutely free of cost, so that you may test it at your own home. There surely must be great merit in the machine when they are willing to pay the freight both ways and run the risk of your being pleased with it. This is surely satisfactory proof that their business methods are honest, and that they have every confidence in the machine. It certainly seems that every woman should consider it her personal duty to investigate the merits of the "1900" washer, especially when she can do so absolutely free of cost. Read their announcement on the back page of this issue, and write for further particulars. Over 60,000 have been sold in this country and all are doing good work. The moderate price and easy terms of payment puts the "1900" Washing Machine within the reach of all. Mention the P. F. when writing this firm.

Free to Horse and Cattle Owners
Our two large booklets telling how to cure Lump Jaw in cattle, Spavins and all kinds of blemishes upon horses, also Fistula, Poll Evil, Sweeny and Knee-Sprung. Inexpensive methods, easily employed by anybody, and that cannot fail to cure

Spavin
Ring-bone
Knee-Sprung
Fistula
Poll Evil
Lump Jaw

We know of over 140,000 farmers and stockmen who rely upon these same methods, and for whom we have saved hundreds of thousands of dollars. Books mailed free if you write stating what kind of a case you have to treat.

FLEMING BROS.,
Chemists,
225 Union Stock Yards,
Chicago, Ill.



THE "LANSING" PERFECT TUBULAR SILO.

for 1903, with its improved continuous open doorway, is the best silo made. If interested do not fail to get our illustrated catalog that tells all about it. It's free for the asking. Address

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We will give these Two SOLID GOLD laid Rings, one set with large Garnet and three Pearls, one with Ruby and two Brilliants, *FREE* to any one that will sell 12 packages of our goods at 15 cents each, and sends us the $1.80. No money required until goods are sold. We take back all not sold. Address MANHATTAN TRADING CO., P. O. Box 818, N. Y. City.

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raked hay in the old fashioned way.
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IDEAL
RAKES AND MOWERS
are used nowadays by up to date farmers.
DEERING DIVISION
INTERNATIONAL HARVESTER CO.
OF AMERICA
CHICAGO, U.S.A.

The Home Circle.

Edited by Velma Caldwell Melville, Son Prairie, Wis., to whom all communications relative to this department should be addressed.

Prize Offer.

One dollar each for the best four articles on either poultry raising, fruit raising, market gardening or spring care of horses, that reaches our desk before March 14, 1903. In treating of the first subject, give experience in both natural and artificial incubation. We want facts and figures. The second subject refers to small fruit. Under the third heading give us hints for hotbeds and the like; also figures that show the actual profit of market gardening. The fourth subject is one of vital importance. Change from winter fare, winter quarters and stand-still experience to the rush and weariness of the spring work is a crisis in the life of every farm animal. Give us intelligent notes along this line. Let no article, on any subject, exceed five hundred words. Let all enter this little competition, not for the small prizes, but for the good we may do.

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Memory.

ALICIA E. STORM.

I took the book of memory down
And looked its pages o'er,
And, as I gazed, I lived again
The years long gone before.

First, childhood with its happy hours
Passed on in swift review,
Then, old school days, with my dear mates,
I lived again anew.

The fleeting joys of early youth
Come to me once again,
And, swiftly following in their lead,
The years of toil and pain.

Some mem'ries sweet, some mem'ries sad,
Some mingled with regret,
But I must turn me from the past
Nor present work forget.

My past mistakes, I'd rectify,
And wrongs, gladly correct;
And duties I have left undone,
I would not now neglect.

And thus, each day, I'd lay away
Something worth more than gold—
Remembrance sweet—'twill joy afford
Some day—when I am old.

Plessis, N. Y.

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Editorial Chat.

Washing made easy! That is something that every farm wife is interested in. And it is made a fact by the "1900" Washer, which has been advertised in the P. F. A member of the P. F. staff has one of these machines in his home and he says the women folks say it is the greatest labor saver they ever saw. Wash day no longer has any terrors for his household. We hear that a large number of these washers have found places in P. F. homes. It is such labor savers that bring joy to the good farm wife to whom the weekly wash day is indeed "blue" under ordinary circumstances. We believe in the equal rights that will place a "1900" Washer in every farm home where the good man has machinery to lighten his labors in the farm operations.

* * * * * * * *

We would say to our young contributors, please remember to write on one side only of the paper. We cannot use matter written on both sides; and be careful in composition and penmanship. This is an excellent opportunity for you to learn to do good work. Be very careful.

* * * * * * * *

It is quite time the H. C. Improvement Society began to plan for spring work, and to this end we take the liberty of re-printing a little story which we wrote for a Western paper, hoping thereby to sow some seed among its readers.

"It was the time of year when the beauty-loving one turned her gaze out of doors and presently the least bit of a frown began to pucker her brow. The ground looked sodden and only brown, ugly vine skeletons and bare branches greeted her eye. Over there were the barns—the frown deepened—John did not look at things from her point of view.

"'Utility' was his excuse on all occasions when she remonstrated with him for the disorder that prevailed all over the farm yard. 'But, John,' she urged now, 'there is no especial utility in having all those boards scattered about, that line of broken pickets sticking up there, that large gate propped up in most unsightly manner. There is no special utility in having the pig yard on this side of the barn, the other side is far sunnier. For years I have begged you to board over those log cow and sheep pens if you think it too much trouble and expense to build new ones. Why not board and paint things up generally? Haven't time? Why, John, there will be plenty of time yet before actual farm work can begin. Why not you do a little spring house cleaning, as it were, as well as I? For weeks I have been overhauling closets and rag bags, making the bits into rugs and comforters and taking the residue for carpet or paper rags. I am trying to get ahead with my plain sewing and doing any number of other things that, when time for the rush begins, I will be sort of straightened out. For my part, I can not understand how a man can sit around, content to just eat, sleep and do the chores, waiting for time to begin the spring work. Now, don't get huffy, John, but let us plan a little.' We are not recording John's grunts and remarks. She had him enlisted to hold a big skein of yarn while she wound it, and he dare not let go.

"'Suppose,' she went on tranquilly, though in his irritation he was tangling the yarn dreadfully, 'we inaugurate a reform. Let us begin by giving the farm a name and then doing our best to make that name a synonym of all that is tidy, even artistic. Why not, John? No, it is not nonsensical or impractical. Others are doing it. Why not the Masons? Anyway, help me think of some appropriate name, something unusual. So many people are naming their farms after their poultry, so to speak. For instance, two prominent breeders of White Rocks call their places 'White Plume Poultry Yards,' but the majority name them from something suggested by the surroundings or by something growing thereon.'

"John was getting interested now and the winding proceeded more evenly, though she seemed in no hurry.

"'One I was reading about recently was called 'Woodside,' another 'Fair View,' another 'Brookside,' another 'Seven Oaks,' another 'Sunny Side,' another 'The Elms,' another 'Lilac Villa,' and so on. Now what have you to advance for the Mason farm?'

"Trust a woman's ingenuity! Before he knew it, John was deep in the pros and cons of the subject. There was a single large pine in the front yard which suggested to her the name 'Lone Pine,' but neither of them liked the sound and that was dismissed for 'Greenwood,' because in summer a pretty little forest formed a background for their rural home. Then they considered 'Sunrise Farm,' as they had often noted the beauty of the sunrise as viewed from their front porch; finally they decided to refer the matter to the children when they should come from school. We are not saying that this was a piece of strategy on her part to get the whole family interested. John went out to do those chores, but he had a new idea in his head, and somehow, though he occasionally addressed a reproving 'pshaw, all woman's nonsense,' to himself, he looked about the farmyard with a speculative glance and noted many things hitherto unseen.

"Several times he even paused to pick up something—board, tool or bit of machinery—almost imbedded in Mother Earth, and once or twice he stood back and viewed the farm and its environments, seeking inspiration for a name. At supper the subject was thoroughly discussed, but it was the baby who settled the matter by piping out:

"'Me want some hazelnuts, me do!'

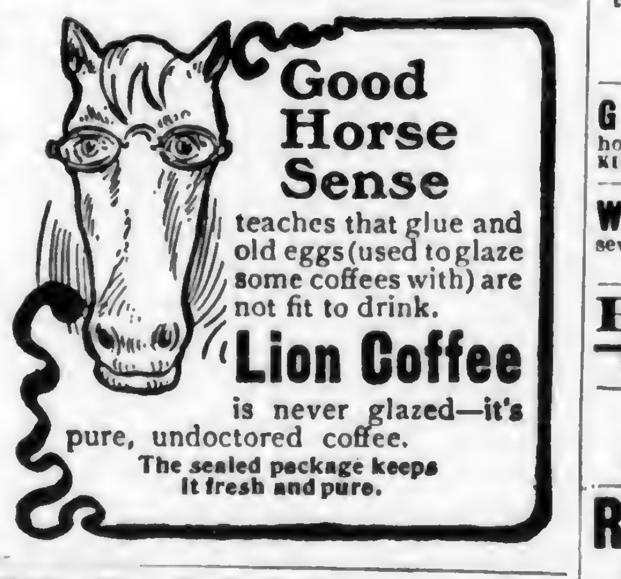
"'Mamma, let's name it Hazelwood,' cried the daughter, 'you know the woods around here are full of hazelnuts,' and then papa laughingly put the motion and it was a unanimous vote in the affirmative.

"'Say,' said Johnny, who enjoyed the responsibility of voting, 'let us make a society, just ourselves, like mamma was reading about the other day.' 'You mean organize a society,' corrected Helen.

"'A Village Improvement Society,' laughed George. 'Well, a Farm Improvement Society,' amended Johnnie, and mamma said: 'If you made that a motion, I second it.'

"And so, amid much fun and merriment, Hazelwood Farm Improvement Society was formed with just members enough to fill the offices."

(*To be continued.*)



Good Horse Sense teaches that glue and old eggs (used to glaze some coffees with) are not fit to drink. **Lion Coffee** is never glazed—it's pure, undoctored coffee. The sealed package keeps it fresh and pure.

H—T—T Published monthly, 52 pages. Tells all about Hunting, Trapping and Raw Furs. Sample copy, 10c. Hunter-Trader-Trapper, Box 23, Gallipolis, Ohio.

Above the Clouds.

C. L. MOSS.

My first experience above the clouds I shall never forget. It happened in California in the fall of 1889, the very last of August, and just at the beginning of the rainy season. I had recently filed upon a claim, located in one of the most northerly counties, along the coast of the Pacific Ocean, and back far enough to be among the ridge peaks of the Shasta Mountain Range. The settlements being very few, and a mile or two apart, with only trails dug out of the sides of the mountains of steep rock to travel by, would cause the reader to wonder that anyone inhabited such a country at all, and more so when I tell you that it is the one place in this civilized America, that has no railroad connections. To get there you must take steamships at San Francisco and steam northward along the coast for over 200 miles, and around Point Mendocino, the furthest point of land extending into the Pacific. I had not had time to build a house upon my new possessions, but had built a hut and just got my winter supply stored within, when my nearest neighbor, an American man (but wed to an Indian girl) called upon me, and after an hour's pleasant conversation, invited me to accompany him to the top of the mountain on a hunting and camping expedition for one night, and return the next day. The invitation I readily accepted and we made the start to climb the mountain. Well you may say climb, for after we had crossed a small piece of bottom land clustered with mighty redwood trees towering 300 feet into the air, with foliage so dense that the sunlight scarcely penetrated it, and forded the river, which was only fordable at the break of the riffles, at this season of the year, we commenced to make the ascent, which was very steep from where we left the water's edge until we reached the summit of the mountain. It was about 2.30 P. M. when we started. It was hot and not a breath of air seemed to be moving. It was not a sultry heat, but a dry heat. After climbing almost perpendicularly, by zig-zag, over prairie, through brush and around rocky ledges, for an hour and a half, we arrived at the summit, in a little hollowed out place, which seemed as though it had been made by the hand of Providence for an ideal camp. There was about an eighth of an acre, covered with a wide leafed grass which our horses and pack mules ate readily. There was a spring of crystal, flowing water at one side, and a thick growth of short brush surrounding the place. Right above us, within rifle range, was the bold, timberless summit, the side facing toward the sea. We were in quite a different altitude now, several thousand feet higher, and above the timber line. It was the highest peak for several miles around. After our equipments had been unpacked and our horses securely staked, my friend said that now we would make a camp fire and cook a quick supper, after which he would show me around some, so that we could separate and hunt individually in the morning. It was not long until we were on the move, half running sometimes, as the day would soon be gone. The leaves and grass were very dry, and it was impossible to keep from making more or less noise, and the deer kept well out of sight and range. We had followed along back of the summit until suddenly a heavy wind blew against us, when my friend said it was no use to hunt any more that night. At this juncture we arrived at the very summit, the wind almost blowing us off our feet. My friend remarked that the fog was coming in from the sea and that we would have better hunting in the morning. True were his words. I looked in the direction from whence the wind came, and there it came like a sea of foaming, seething, dashing, splashing, silver rippled gold and tinted waters. The most beautiful sight that mankind can behold and a thing that no living artist's brush can duplicate. The land below, the sea of approaching clouds, so beautifully contrasted with the sun's rays, closing over all except where you stand, and a few other high peaks, which appear as islands now, and the Sierra Nevada Mountains, whose white-capped peaks are in full view. A scene to cause one to stand spellbound with awe. But now the sun settles below the clouds and the beautiful tints disappear, but still the sight is beautiful. However, we have stayed as long as we can, and turn and make for camp, and after rolling up in our blankets the wind ceases to blow and the fog rises still higher and above us, and we go to sleep with strange thoughts in our minds of a happening that we can never forget. The next morning we arose an hour before daylight, to make ready for the hunt; the fog had all disappeared way down the mountain sides, but everything is wet; the trees are dripping yet, and as we wade through the low brush and grass we become wet to the skin. Lower down the side of the mountain we found the deer under the oak trees eating. We each killed two fine bucks; one of mine had large, forked horns, which I kept and had mounted, and they now hang here in my home on the Atlantic coast, a memento of that hour above the clouds.

Atlantic Co., N. J.

My name is on my lamp chimney. Nobody else's name is on his chimneys.

MACBETH.

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Among the Flowers.

ROSIE TULL.

Well, yes, this is rather an off time among the flowers. They need no cultivation or care; that is, those out of doors. The delicate ones, ere this, have been long tucked into winter quarters and the hardier varieties need but little attention at any time. But every season has its work and this one is no exception. The time has arrived to begin planning for next summer's harvest of blossoms. Reflect on last season's successes and failures and profit by them. Look sharp lest you make the same mistakes again. Try to avoid them. Plan your flower beds and select your seed with great care. Begin now; don't delay, or spring may be here ere you are aware. Now is the time to do your planning and buy your seeds, and have them ready to commence work as soon as favorable in the spring, thus saving many precious moments. Just as soon as the new catalogues arrive begin their study; 'tis both amusing and beneficial.. Allow yourself plenty of time to select the kinds you want. Remember much of your success depends upon your choice of varieties of seed and plants. The descriptions of many are very catchy, and on first thought you think, "That is just what I want," but upon a little thought you find something else that will suit you a great deal better. That is just the reason why so many of the hurriedly selected orders are unsatisfactory. Use thought and a little time in selecting your seed and plant order and you will not have reason to regret the time thus expended, for you will be better pleased with the result. Send in your order as early as possible. Before the spring rush they have more time to fill orders, and then seedsmen usually offer an inducement for early orders. Do not buy more seed than you need, just because they are cheap; this is mistaken economy. Get no more than you can care for properly, for one plant well cared for is worth more than a whole garden full of uncultivated ones. By all means include a packet of some new variety, to you, in your order, or, what is more interesting, a packet of mixed varieties. Plant them in rows, as they are easier cultivated and kept free from weeds. You will enjoy watching them grow—all jumbled, as it were—and trying to guess the identity of each. But some will no doubt escape your recognition. It is quite a novelty and a break in the monotony. Try one and see their beauty.

Look well at the rose department. The rose has rightly been styled "The Queen of Flowers." Are you going to add another one to your already beautiful collection? Have you a sweet briar? If not, your collection is wanting in fragrance, and I would suggest you make an addition from that quarter. If you cannot get a plant try the seed if it can be obtained. Plant it in common garden soil in a place where it will not be molested, as quite a while is required for this seed to germinate. They seldom peep through ground, till a year after being planted in the spring. The plants are very delicate at first, but when once started are quite hardy, and repay one for the trouble at starting. Transplant to where they are to remain, the second spring. The sweet briar is quite a novelty here. I know of but two in this locality, and one of those is mine. It is five years old, from seed, and is quite a large bush. Last summer the first sprout from the bush appeared. We have had several hard freezes, but the sweet briar still has many leaves, though not as many as during the summer, and a load of bright red seed warts. It looks very beautiful when all else is shear and dry. Its blossoms resemble the common wild rose, and do not last long. The fragrance is in the leaves, and during the spring and summer outrivals the variegated honeysuckle, and in the early morning the gentle breezes waft its delicate perfume to one with the first notes of the lark, making life seem sweeter and giving strength for the day's labor. It has very large thorns and they are quite thick on the canes, but they only make the bush handsomer. The sweet briar, thorns and all, has an honored place among my roses.

Walker, Mo.

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Denim.

EXPERIENCE.

Only a few years since, the mention of denim brought to the mind visions of clumsy overalls, worn by laboring men, and now the word suggests tasteful hangings, artistic table covers, pillows and other pretty articles too numerous to mention. Not that less denim overalls are worn. Oh no! For the demand has probably increased with the years, on account of the wonderful durability of the cloth, but the manufacturers, having realized that there was a growing demand for a fabric which should combine durability with artistic appearance, resolved to meet this, and the results have been entirely satisfactory. The figured denims for door hangings, table covers, etc., are what the manufacturers claim—really artistic—while the plain art denim, which is a fabric showing one color on the right side and a mixture of that color and another on the wrong side, is used for the same purposes as the figured, and is also used as a floor carpet. Costing from twelve to twenty cents per yard, and lasting almost indefinitely, denim is a very economical fabric to use for many purposes. When soiled it may be washed in Pearline suds and dried in the shade, which will leave the colors as bright as new.

For floor covering it is used mostly in bedrooms and other rooms where it will not have rough usage. As the figured and plain art denim can be purchased in the same colors, a room may be carpeted with the plain, and have hangings of the figured, with good effect. There are other drapery fabrics that are equally as pretty, but none that combine beauty and durability like the denims, and consequently none that are so well suited to the needs of economical housekeepers.

Florida.

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Our Book Table.

MONIQUE.

A public library in our town is an assured fact, and we do not feel greatly in need of one of Mr. Carnegie's donations, or even book clubs, but I want to tell of a book club in my home town that is worth trying where there are no public libraries. Each member of one of the societies for women donated a book. This was to remain in the library a year and you had the privilege of reading all. A blank book was kept wherein each person, when taking out a book, recorded on the page where her account was kept, the number of book, the date when taken, and also recorded the date when it was returned. In this way the books were easily kept track of. At the end of the year they were taken up by the donors and a new list chosen.

Only late works were chosen, and this was hardly a fair test of each one's taste in literature. It was indeed a treat to read some of the books, but I have often wondered why others of them were ever written, for time is worse than thrown away if spent in reading something that leaves a bad taste in your mouth. In these days of splendid clubbing offers, I should think a magazine club would be a good thing among neighbors.

Sunnysde, Wash.

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Correspondence.

R. E. Merryman, Melrose, Fla., writes: Dear Mrs. Melville: I have just read C. W. Stephenson's story, "She Gained Her Point," and, although I found it amusing and laughed with the others at David W.'s predicament, I could not help wondering how many of our H. C. would be willing to go through such a performance for the sake of gaining her point. Would not the wife, who had thus deceived her husband, have a "sneaky" feeling about it afterward? He was so kind to her afterward that she might feel that coals of fire were being heaped upon her scheming head. With such a good head for planning could she not have thought of some way to force him to fix the steps and still have retained her dignity and truthfulness? What does the Circle think about it? Was it the best way, and if not, what better method could she have taken to bring about the desired result?

[We like this criticism. Come, let us hear from others.—ED.]

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We stand ready to prove at our own risk that there is positively no other method of lighting which approaches this wonderful lamp, for mellow, beautiful light, for ease or operation and for economy. The ANGLE LAMP burns oil in a scientific manner. While more brilliant than gas or electricity, it never smokes, smells or gives any trouble, is lighted and extinguished as easily as gas, may be filled while lighted and without being moved, requires attention about once a week and burns but 18 cents worth of ordinary kersene or coal oil a month. Here is combined every desirable feature of a light. It cuts out of housekeeping one of its most disagreeable duties—constant care necessary with ordinary lamps. Thousands of these lamps are now in use and every one has been sold on the guarantee that it is absolutely as represented or money refunded.

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Youth's Parliament.

BABY'S TOE CHICKS.

(For the wee ones.)

R. H. MC CANDLESS.

This little chicky
Is so very, very tricky
That he won't eat his grits
Till he's shown off his wits.
He will stand on his toes,
And he'll tweak his little nose;
He'll stretch out his wing,
And loudly he will sing,
But he never does grow fat.

This little chicky
Is so very, very slow
That he never sees the worm
Till its very last squirm
Down the other chicky's throat;
Then he'll do a little dance,
And around the garden prance,
But he never does get fat.

This little chicky
Is so very, very long,
But mamma always says:
"He isn't very strong."
He'll put in his bill,
And he'll eat with a will;
But his lungs are so weak
He can hardly squeak.
And he never does get fat.

This little chicky
Is so very, very lazy—
Tho' he thinks himself a daisy—
He will peck at the corn
And he'll look quite forlorn;
But he hasn't any wit,
And he can't sing a bit—
And he never does get fat.

This little chicky
Is so very, very plump
That he has to walk
With a funny little hump.
He scratches out early,
And he picks up late,
And he never has a thought
In his fuzzy little pate;
But, oh my, he does get fat.

Comptche, Cal.

[We are sure the mothers, as well as the babies, will enjoy this addition to nursery "literature," as the pretty little toes are about the first objects of interest to a baby.—ED.]

Heavy Rains soften the ground and prepare it for the seed. Williams' Shaving soap softens the beard and prepares it for the razor. Lathers freely and the big, creamy lather penetrates the beard, softens it wonderfully, so that it offers the least resistance to the razor. Makes shaving easy and pleasant.

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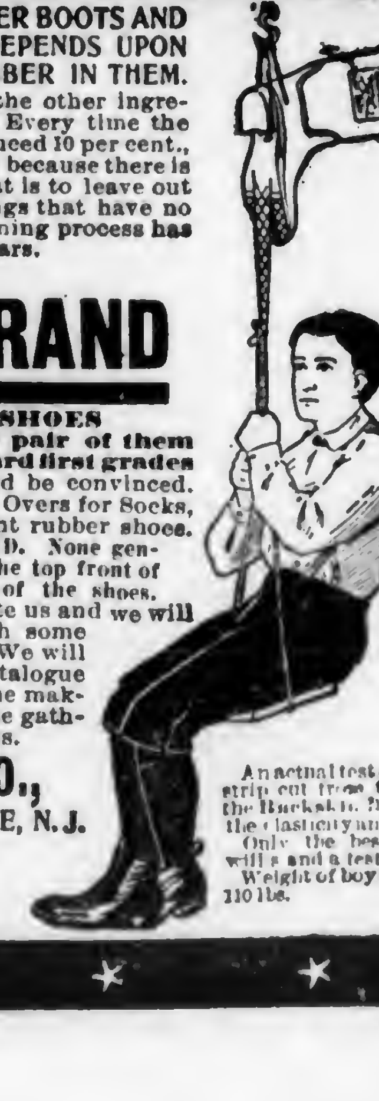

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Insist on getting the BUCKSKIN BRAND. None genuine without the word BUCKSKIN on the top front of the legs of the boots and the bottoms of the shoes.

If your dealer does not keep them write us and we will see that you get them either through some dealer in your town or from us direct. We will also send you a very interesting catalogue profusely illustrated, which describes the making of Rubber Boots and Shoes from the gathering of the rubber to the finished goods.

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Topic No. 562, March 7.—*Have You Raised Good Calves Without Milk? If so, How?*

Topic No. 563, March 14.—*What Varieties of Pears Have You Found Most Profitable, and How do You Cultivate and Pack for Market? Have Dwarf Trees Been Profitable?*

Topic No. 564, March 21.—*For the Ladies. How do You Make the Washing of Dishes, Pots and Pans Easier and not at the Expense of Time and Cleanliness?*

Topic No. 565, March 28.—*Have You Ever Tried Flat Culture with Cotton, and What is the Best Distance to Thin in the Rows and Between the Rows?*

Topic No. 566, April 4.—*How Do You Raise Turkeys, and What Breed is Best?*

Topic No. 567, April 11.—*What Varieties of Peaches Have You Found Most Profitable and How do You Manage Your Peach Orchard? Mention Best Two Varieties for Early, Mid-Season and Late.*

Topic No. 560.—Growing Tomatoes for the Canning Factory. What Variety Have You Found Best, and How do You Manage the Crop from Start to Finish?

Joseph F. Schenck, St. Catharines, Can.—First sow the seed in hotbed or greenhouse, in not less than 5 or 6 inches of soil, and in about two or three weeks time, when they have the third leaf, harden off well by giving the plants plenty of air. Transplant thickly into another shallow hotbed, about two inches apart; give plenty of air and in about fifteen days transplant the second time into cold frames, about 5 or 6 inches apart, and if given plenty of air, and watered from time to time, as the earth gets dry, they will make nice, stocky plants by the time they are ready to set in the field. When the plants are ready to transplant to field, water thoroughly the night before, also before taking out; loosen with fork, pull plants, leaving on roots as much dirt as possible, and set in crates or stone boat and draw to field. After the ground in field is thoroughly prepared by manuring, plowing, etc., harrow fine and mark, with marker, rows about four and a half feet apart each way; then open up shallow furrows with plow one way. Scatter well at intersection of cross mark and furrow a handful of hen manure or phosphate, mix thoroughly and set plant by drawing a little moist soil around it, throw the balance of the soil back around plant with plow and the job is complete. In a few days cultivate each way with cultivator, hoe once and continue cultivating twice a week until plants are too large to go through. The best varieties for factory use are the Matchless and the Stone, as both are good, sound tomatoes and ripen well around the stem, and this is the essential part of a tomato for the canning factory. In drawing to the factory a grower should have at least enough crates for three loads. One set to be left at factory, another set in the field, so picking can go on, while the third set of crates, full of tomatoes, are being delivered at factory, and the empty crates left with the previous load, taken back. If the above instructions are carefully carried out a large crop of tomatoes should be the reward. We have been extensive growers for the factory for a number of years, and have always followed this method.

C. L. Moss, Hammonton, N. J.—In growing tomatoes for the canning factory, I select three or four of the best varieties listed, keeping them separate and noting their comparative producing qualities throughout the season for future reference. To start the plants I sow or drill seeds in a hotbed early in March; do not sow too thick, as one ounce of seed is equal to 4,500 plants, and will give a sufficient number of plants for an acre. I thin my plants in the hotbed and re-set into cold frames, and a short time before setting into the field I gradually, until I leave the sash off the bed, harden the young plants to the air. Set out just before a rain if you can. I have had best success with plants I set in the rain, the first to middle of May, in light or sandy, loamy soil, rows four feet apart and hills three feet apart, with a shovelful of good, well rotted manure added to each hill. Cultivate very regularly as long as the plants will submit. I do not stake, but have tried it with a few with splendid results, by taking small, 4-foot stakes and setting one in each hill just before the fruit begins to ripen, and tie each vine twice, one and two feet above the ground. I gather and ship in five-eighths baskets. My method of treating the vines for fungus, worms and disturbers, is, first, Bordeaux mixture, and second, before fruit begins to ripen, a spray of Paris green and lime; the two will be sufficient for the season. I will name Acme, Early Michigan, Optimus and a very few others of similar kind. These I find do not rot or crack as many other kinds do, unless the changes of weather are very extreme. This is a topic that much could be said upon, like many others, but must be treated in a limited space, that other voices may be heard.

W. E. Bullock, Smithville, Md.—After trying several varieties of tomatoes I prefer the New Stone, with the Paragon a close second. Sow the seed in loose, rich and well drained land, in rows, as soon as danger from frost is over; sow rather thinly, as good, strong, stocky plants are important. Soil should be stirred as soon as plants are well up, and often enough to keep ground from crusting. If rains are deficient, water should be supplied with sprinkler late in afternoon. If weather is favorable plants should be ready to set in about four weeks. A medium clay loam that is in a highly improved condition, that has grown a crop of cow peas the year before is perhaps the best soil for the tomato crop. Plow the land early in spring, then work it down thoroughly and sow broadcast, or drill 300 pounds of acid phosphate and 200 pounds kainit, or 50 pounds muriate of potash, to the acre. The cow pea stubble will furnish the nitrogen. Cultivate twice more and smooth with plank drag or roller, making ground nice and level. The ground is then marked 4x4 feet. I prefer to have land prepared a few days before ready to set plants, so as to catch a rain on it if possible. Plants are set with spade pushed in the soil and then drawn back to leave an opening for an assistant to put the plant, spade withdrawn and soil firmly pressed around plant. Cultivate both ways and as long as vines will admit of getting through without damage, for good cultivation will materially increase the crop. Pick in five-eighths bushel baskets, which generally average 12 to 15 cents per basket.

Mrs. A. A. Watkins, Manson, N. C.—The varieties that give most satisfaction are Advance, Stone and Honor Bright for canning. Very large or rough tomatoes are not suited to canners. Sow seed in open ground, in rich, mellow soil, in March. By the side of a building, where the north and west winds cannot strike them, is best. They are much stronger than when grown in boxes, and they come full early for canning. Prepare land as for cabbage; not too rich or they will go to vines and the fruit will be apt to rot before it ripens. Cultivate shallow, and keep down weeds. When the fruit ripens gather in shallow boxes or baskets and handle gently, as the slightest bruise will make them spoil in twenty-four hours if they are ripe, and if one wants first-class tomatoes they must not be gathered green. When hauling to the cannery, put straw in wagon bed to set boxes on. I have had a cannery myself, and know how unsatisfactory green tomatoes are, and what a waste it is to bruise them. I furnish parties in my nearest town, and cannot begin to fill the orders I receive for them. It is best to have a late variety, so they will not all come in at once, and one can make any variety late by sowing seed later. It gives more time when we wish to do all the work ourselves.

J. W. Page, North East, Pa.—We have two canning factories here, and the growing of tomatoes is quite an extensive industry. We have two varieties that are favorites, namely, Early Michigan and the Stone. Both are nice, smooth, red tomatoes. The former is about three weeks earlier than the Stone, but we, for general crop, prefer the Stone. It is a heavy bearer and very hardy. About March 15th we sow the seed in hotbeds made facing the south, and when three inches high, or about April 15th, we transplant to cold frames, setting them six inches apart each way. About May 20th the plants are ready for the field. We plow the soil very deep and harrow thoroughly and deeply; then furrow out the rows 4x5 feet, with a good shovel plow, dropping a pint of fertilizer in every hill. We wrap each plant with a paper before setting, to protect them from cut worms, which are very troublesome; have lost thousands by their ravages. We cultivate frequently and deeply until the plants are grown together. They are ripe about August 1st, and must be well colored and be delivered at the factory in crates for $8 per thousand, and then there is good money in the business. The factory will grow the plants for us for $3 per thousand, ready to set, but we prefer to grow our own. Good, stocky plants, 12 inches high and one-quarter inch thick, are my ideal plants for good fruit.

Walpole Nockolds, Oakley, Texas.—The best varieties of tomatoes for this section of country, and the most extensively grown, are Acme and Dwarf Champion. I have also had good results from Fordhook Fancy and Trophy. The Acme is the best commercial variety for yield and early ripening. Dwarf Champion is very hardy and produces very fine fruit, but is backward about coloring, staying green a long time. I make a hotbed on the south side of a building, if possible, using any available manure. Size of bed for an acre of plants should be about 32 feet by five feet. This gives room for seed and to transplant. One ounce of seed should produce plants enough for one acre. We have good success with cloth covering for beds, and it is not as costly or hard to handle as sash. Transplant as soon as plants begin to show third leaves; water as soon as set, and shade till they take root, say two or three days. The cloth cover is shade enough. Transplant twice if possible, as it makes a well rooted, stocky plant. On fine days give them air and sunshine, covering at night. Set as early as possible to avoid late frosts. Tomatoes do best here on new land. Give your land as good preparation as possible, and you can hardly make it too rich. Mark off your rows (we set them in 4-foot checks and mark both ways). We find it best in our sandy land to use the hands in transplanting or setting out in the field; we dig a hole of suitable size, put in plant, and pull soil to it and firm with hands. If dry we use about a pint of water to each plant. As soon as all are planted run around them with Planet Jr. wheel hoe with shovels so as to level off and throw a little dirt to plants. Cultivate every ten days, if possible, till plants get too large; you can hardly cultivate tomatoes too much. In picking, the fruit should be handled carefully and avoid injuring the vines. With good land, thoroughly prepared, an early start, good care and intelligent shallow cultivation, a good crop of tomatoes should be made.

Jno. T. Prattis, Federalsburg, Md.—The first requisite to a successful tomato crop is a clover sod. Second, plenty of manure, horse and cow mixed, hog pen still better, and if you have only enough for two acres, then only have two. My experience is, you cannot make a paying crop with fertilizer alone. Third, clean and frequent culture. Put out manure in winter or early spring, eight or ten two-horse loads per acre. Plow at least three weeks previous to setting of plants; work down fine same as fallow for wheat, and drill in 500 lbs. per acre of acid phosphate with 8 or 10 per cent. potash. Then mark out with corn marker, same as for corn, 4x4, so you can work both same time; work once a week, if possible; don't begin until it is dry; work until fruit is as large as a walnut; stop sooner if the vines are in the way. Working wet, or bruising with horse and harrow, will ruin your patch. Lime after plowing will be beneficial, provided the land has not been limed for four or five years. I prefer the Stone. It is solid, a good keeper and shipper, don't rot, only needs picking once a week. A patch thus treated will make 500 five-eighths bushel baskets, or more, per acre, according to season. Last year's crop brought from 12 to 30 cents per basket. Out of the 9,000,000 24-can cases packed last season in the U. S., Maryland furnished over 5,500,000 of them.

Clarence Huffman, Charleston, Ill.—We grew tomatoes several years for the canning factory here. The factory is now used for other purposes. We usually used the Imperial tomato, and found it very productive. Used a marker and planted tomatoes six feet apart both ways. Used 2-horse double cultivator in cultivating them. Paid three cents per bushel for picking them. Our farm is near town, so pickers boarded themselves. One year we planted seed in the hills, and then thinned down to one plant in the hill, instead of setting out plants, but it did not succeed very well.

Benj. Ringwald, Madison, Ind.—I have been raising tomatoes for the canning factory for about eight years. I have planted several different varieties, such as the Stone, Favorite, Ten Ton, Perfection, Acme, Enormous and Success. I find the Stone and Success are the best tomatoes on my land. The Success is one of the finest tomatoes I ever saw, and as heavy a yielder as the Stone. I sow seed about the first to tenth of April; burn brush, rake off some of the ashes, dig it up about two inches, rake it fine and sow seed in little drill rows, then canvas the beds. I set plants when about 10 or 12 inches high. I prepare the land the same as I do for corn, then mark rows about 4 feet apart. I plant by guess in the row, about 3½ feet apart. I cultivate with a 14-tooth harrow and 5-shovel cultivator until vines get too large for the horse to get through the rows. I always leave wagon road so I can carry twelve rows either way, to it. I hoe the grass out between hills and hill them a little. Clean cultivation is essential for a good crop. When the fruit begins to ripen I distribute my boxes along these roads, about four or five in a place. I always pick in a big wooden bucket, two rows at a time, and carry to boxes along my road. Our boxes are 24x12x8 inches in the clear, holding about a bushel. I usually haul 45 of these boxes to the load. I put about six inches of straw in bottom of bed (some use bolster springs), start loading in front, three boxes wide and three boxes deep, or nine boxes, making one tier; load balance of the tiers the same way until all 45 boxes are loaded; tie a rope across the rear tier to keep from slipping, for I don't use the rear end-gate in wagon. I always put spring seat across the front tier. My crop in 1902 made me a clear profit of over $40 to the acre. I had only two and a tenth acres. The crop grew on flat land, cleared only three years, which is full of stumps.

SUMMARY.

Our correspondents give very well the different practices in various sections of the country. In the Northern sections, where canning is practiced, it may be necessary to use both beds and frames for forwarding the plants, but in the great canning sections of Maryland and southward, we would greatly prefer to grow the plants in beds in the open ground, as the forwarding is totally needless for the canning crop. The methods some of our friends describe are all right when an early market crop is desired, but will, southward at least, bring the best of the crop too early for the factories. One point which is lightly touched upon is the spraying with Bordeaux mixture to prevent rot, and with Paris green for worms. The Paris green needs to be mixed with plenty of lime wash to prevent injury to the plants, and should not be continued after fruit is of good size. In fact, we had rather not use it at all. But Bordeaux mixture should be used two or three times.

WINCHESTER
REPEATING SHOTGUNS
If you want a serviceable shotgun, one that a scratch or a bump won't ruin and that can be bought at a price that won't ruin you, the Winchester Repeating Shotgun will meet your requirements. A 12 or 16 gauge Winchester Take-Down, with a strong shooting, full-choke barrel, suitable for trap work, duck shooting, etc., and an extra interchangeable modified-choke or cylinder-bore barrel, complete, for field shooting, lists at only $42.00. Your dealer will sell it to you for less. This is a bargain in a gun, but not a bargain-counter gun. Sold everywhere.
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Sold direct to you At factory prices is the celebrated
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and the price is only $47.50 and it is sent to any one anywhere on 30 DAYS' FREE TRIAL to enable purchaser to see how good it is. High quality, low price. Guaranteed 2 years. Free trial before buying. What more do you want? Send for our large free Catalogue of Split Hickory Vehicles and Harness. Address OHIO CARRIAGE MFG. CO., Station 37 Cincinnati, O.

FITS
If you suffer from Epilepsy, Fits, Falling Sickness, St. Vitus's Dance, or Vertigo, have children, relatives, friends or neighbors that do so, or know people that are afflicted, my New Treatment will immediately relieve and PERMANENTLY CURE them, and all you are asked to do is to send for my FREE TREATMENT and try it. It has CURED thousands where everything else failed. Will be sent in plain package absolutely free, express prepaid. My Illustrated Book, "Epilepsy Explained," FREE by mail. Please give name, AGE and full address. All correspondence professionally confidential.
W. H. MAY, M. D.,
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By Using
FLINTKOTE
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Easily Laid
Durable—
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We are the largest manufacturers of vehicles and harness in the world selling to consumers exclusively.
WE HAVE NO AGENTS but ship anywhere for examination, guaranteeing safe delivery. You are out nothing if not satisfied. We make 195 styles of vehicles and 65 styles of harness.
Visitors are always welcome at our factory.
No. 42—Double Surrey Harness. Price $19.50. As good as sells for $10 more.
Large Catalogue FREE—Send for it.
No. 231—Surrey. Price $68. As good as sells for $40 more.
ELKHART CARRIAGE & HARNESS MFG. CO., Elkhart, Ind.

Farm Implement Annex

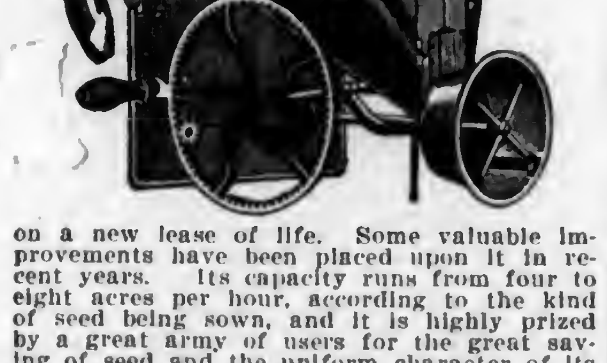
To The Practical Farmer.

It is the purpose of this department to assist P. F. readers in securing the best implements and machinery for doing their work, and to so adjust, manage and care for same as to get the best possible returns from their use. We invite subscribers to write us fully and freely in regard to farm implements and machinery. Pointers on selecting implements for various kinds of work and soil; on buying, operating and caring for them; their defects, improvements, attachments, adjustments, etc., will be welcome. A cash prize of 50 cents will be paid for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Put at top of each article For "Farm Implement Annex," and send to Geo. T. Pettit, Box 32, Oneida, Kan.

Orchard Cultivator.—A few days ago I saw an implement which I think everyone who cultivates an orchard will appreciate. An old mower from which the guards and other unnecessary parts had been removed, had 4 or 5 spring harrow teeth bolted along the outer end of the cutter bar, being zig-zagged so as to form a little harrow. The teeth were raised and lowered by means of the lever used to raise and lower the points of the guards in mowing. I believe this to be an ideal implement with which to cultivate peach orchards, young apple trees and older orchards with low hanging boughs.

Floradale, Pa. WM. H. BLACK.

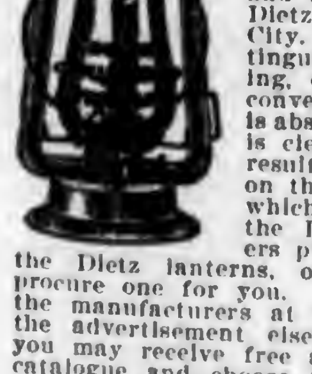
A Famous Broadcast Seeder.—Many of our readers will recognize an old familiar friend in the illustration of the Cahoon Broadcast Seeder shown herewith. We believe this seeder has been in use about 44 years, and with all of the modern appliances intended to supplant it, many have never ceased to use it. It has been one of the most useful, certainly the most popular machine for the broadcasting of grains and grasses ever on the market. It has had a very wide use, particularly in the Middle and Atlantic States, and instead of any disposition to retire from duty, seems to be taking on a new lease of life. Some valuable improvements have been placed upon it in recent years. Its capacity runs from four to eight acres per hour, according to the kind of seed being sown, and it is highly prized by a great army of users for the great saving of seed and the uniform character of its work. As will be noticed by the advertisement, the manufacturers are sending out a booklet descriptive of the improved seeder, which is at the same time a valuable compendium and brief treatise on the whole subject of seed sowing. Whether interested in broadcast sowing or not, it would be well for our readers to look up the advertisement and write for the book on account of the practical information it contains on seeding.



Convenient Barn Ladder.—When I built my barn I was for some time at a loss for a plan to build a stairway or ladder from the hallway to the mow above; one which would be entirely out of the way when not in use. This is the way I finally solved the problem: I cut the opening to the mow in the centre of the hallway, then made a ladder of the proper length to reach from floor of hallway to the mow above. I had the blacksmith make two clips, one of which I bolted on the upper end of each side-piece of the ladder. I also had two hooks made which I nailed to the framework of the opening. I then hung a hook from one of the joists at the opposite side of the opening. Now by hanging the clips which are on the end of the ladder, on the hooks attached to the framework of the opening, the ladder can be swung up and hooked to the hook on the joist. This swings the ladder clear above my head and leaves hallway unobstructed.

Carlisle, Ind. W. D. LATSHAW.

A Good Farm Lantern.—One of the most serviceable little aids the farmer can provide himself with is a good lantern. No argument it required to show it a necessity, but care should be exercised in selecting to get a good one. A poor lantern is full of vexation. The lantern shown here is one of the best types we know of, and is especially well adapted to the farmers' needs. It is known as the "Blizzard," and is made by the R. E. Dietz Company, New York City. In the lighting, extinguishing, cleaning, filling, etc., it is a model of convenience, and moreover, is absolutely safe. The light is clear, strong and white, resulting from the making on the cold blast principle, which distinguishes all of the Dietz lanterns. Dealers pretty generally handle the Dietz lanterns, or upon request will procure one for you. By writing direct to the manufacturers at the address given in the advertisement elsewhere in the P. F., you may receive free an illustrated lantern catalogue and choose from the many there described before buying.

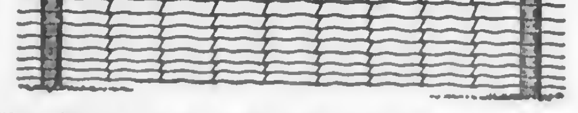


The Care of Implements.—One of the greatest taxes imposed upon farmers is caused by the neglect of their implements when not in use. This is a crying evil, and yet how many overlook the result of their imprudence. There are several simple ways to prevent rusting of plows and cultivators and keep the polished parts bright. One is give them a coat of thick limewash as soon as brought in from the field. Another is to dissolve an ounce of resin in 4 ounces of linseed oil, and while hot mix this with a quart of kerosene, mixing well. This is applied to the metal with a paint brush. For removing rust there is nothing better than half a pint of oil of vitriol in a quart of water. Apply to the rusted metal and wash off with water. Handle with care.

Spafford, N. Y. E. E. LAWRENCE.

[I must admit this is the first time I ever heard of limewash being used as a preventive of rust on plows.—ED.]

The Brown Fence.—The larger and heavier the wires in a fence, other things being equal, the longer it will stand the strain and wear upon it. This should be elementary knowledge among fence builders. Our readers who will be fencing this spring and are looking critically over the fence advertisements in our columns with a view to selecting the best, should not forget that the Brown fence therein advertised weighs about 25 per cent. more to the rod than any woven wire fence sold. The Brown uses as heavy a wire for the uprights as for the horizontals.



The Brown also uses the high carbon double strength coiled spring wire for all horizontals. Taking this into consideration, and the superior method of staying and binding the whole into a single unit employed in the Brown, it must appeal to all as being a fence of great staying qualities and well suited to all farm purposes. It is sold direct from the factory to the farmer at wholesale prices. The manufacturer is the Brown Fence & Wire Co., Cleveland, Ohio.

Small Grinding Mill.—Everybody who keeps poultry to any considerable extent should have a small grinding mill. I bought one of the Enterprise mills and would not be without it for twice what it cost. Paid $6 for it. It is splendid for grinding the corn fine for the little chicks and turkeys, before they are old enough to eat cracked corn; also for cracking wheat, grinding shells, charcoal, breaking crockery for grit, etc. Thus I might mention a dozen or more things for which I find the mill handy, and it does its work thoroughly and quickly.

Bethel, Pa. CHARLES NOFTZINGER.

Efficient Drag.—To construct a cheap and efficient drag, take three white oak poles 6 to 8 inches in diameter and 7 feet long. Peel the bark off and place in position side by side, leaving a space of about 6 inches between them. Now mark off and bore ⅞-inch holes for three-quarter-inch rods to pass through to hold the drag together. Use short pieces of the poles for spacing. Rings on the front ends of the rods will allow of a chain hitch, with clevis in centre of chain to attach to evener. Cut threads on the rear ends of the rods, which will make it possible to keep drag tight and rigid. Spike heavy plank on centre to stand on. Will do work equal to roller and not pack the ground.

Mooresburg, Tenn. S. F. KIRKPATRICK.

The healthy woman need not fear the change which comes as the beginning of life's autumn. It is the woman who is worn out, run down and a sufferer from womanly diseases who naturally dreads the change of life. This is the critical period of woman's life, and the prevalence of womanly diseases makes it the duty of every woman who would avoid unnecessary suffering to take especial care of herself at this time.

The ills which vex so many women at the change of life are entirely avoided or cured by the use of Dr. Pierce's Favorite Prescription. It makes weak women strong, and enables the weakest to pass through this trying change with the tranquility of perfect health.

"I have been a very healthy woman, and this time has been very hard with me," writes Mrs. Maggie Morris, of Munson Station, Clearfield Co., Pa., Box 16. "I am come to the time of change of life, and I have been sick a great deal off and on. When Mrs. Hemmis moved beside me I was sick in bed, and when she came to see me and we were talking over our sickness, Mrs. Hemmis told me to try Dr. Pierce's Favorite Prescription and 'Golden Medical Discovery,' also 'Pellets.' I got her to bring me a bottle of each from the drug store and I used them. They did me a great deal of good, and I got two more bottles of 'Favorite Prescription.' I never saw such a wonderful cure. Before I commenced your remedies I was good for nothing; was in such misery I hardly knew what to do with myself, now I can do all my work myself and feel well."

Dr. Pierce's Pleasant Pellets are easy and pleasant to take.

FREE ADVICE TO STOCKMEN.

An Eminent Veterinarian Offers His Services Free of All Charge During February to Readers of this Paper.

ANY reader of this paper may now have—*free*—consultation, advice and prescription for any animal, from the eminent veterinary surgeon, Dr. Hess. He is a graduate of famous American medical and veterinary colleges and these institutions of learning and the profession generally recognize his written works as authoritative and his preparations for cattle, horses, sheep and hogs as standard remedies.

No matter how much money you may be willing to pay a veterinary, you could not get better service than Dr. Hess will give *absolutely free* during February. But this offer is good only for this month.

If you have an animal that is ailing from disease or injury, write at once. The only conditions are that you send a 2c. stamp for reply, and state what stock you own; what stock food you have fed, and mention this paper. Address Dr. Hess & Clark, Ashland, Ohio.

This offer is intended to cover specific cases—to demonstrate Dr. Hess' ability. It is not an offer of general advice on the training and care of stock.

While you are waiting Dr. Hess' reply it would be well to get a package of Dr. Hess' Stock Food (100 lbs., $5.00; smaller packages a little higher proportionately) and begin conditioning all your stock. It is a scientific preparation that nourishes the vital organs of an animal and gives to all foods the elements of strength and vitality they may lack—producing perfect condition, vigorous health, greater weight. A wonderful tonic; a marvelous invigorant; a positive weight producer.

The use of this wonderful tonic and remedy is so simple that anyone may employ it without further direction than is shown on the wrapper. But if any of our readers would like to make a study of the diseases of stock and poultry, he can get a copy of the comprehensive Dr. Hess' Stock Book free of all cost by mentioning this paper, stating what stock he has; what stock food he has fed, and addressing Dr. Hess & Clark, Ashland, Ohio.

This is a standard work written for the use of the people at large.

With the aid of the Dr. Hess' Stock Book you can become a master of all diseases of cattle, horses, sheep, hogs and poultry; you will not only be familiar with all the disorders of stock, but will know the remedy to be applied. It may save you great sums of money; it may make you a local reputation that will be very useful.

Planet Jr.
From the smallest kitchen garden to the largest field in cultivation; for all kinds of vegetable seeding and cultivation and all kinds of special and general crop cultivation, there are no tools or implements the equal of
The "Planet Jr." Line.
It embraces over 50 distinct and separate tools, nearly every one of which has been designed for a special purpose. There are garden and vegetable Seed Drills which drop in hills or drills; Single and Double Wheel Hoes which do all kinds of private and market garden cultivation; general purpose Horse Hoes for ordinary farm crops; special Twelve Tooth Cultivators for strawberry and special crop growers, Clod Crushers, Levelers, Hillers, Strawberry Runner Cutters, etc. Two Row Sugar Beet Cultivators, Four Row Sugar Beet Cultivators and Special Vineyard Cultivators. The Famous Pivot Wheel Cultivators for all classes of cultivation and for general crops. Then there are the Orchard and Universal Cultivators, Celery Hillers, White Potato Diggers, Sweet Potato Diggers, etc. All these and infinitely more appear in our new 1903 catalogue. Each implement is carefully illustrated and fully described, with cuts of attachments, appliances and combinations. There are over 100 illustrations, many showing the use of "Planet Jrs." at home and in foreign lands. Many people competent to judge say that ours is the best catalogue of the season. We mail a copy free upon request. Better write for it at once.
PLANET JRS GIRDLE THE WORLD. GUARANTEED SATISFACTORY
S. L. ALLEN & CO.,
Box T711 Philadelphia, Pa.
Planet Jr.

$21.95 FARMERS' HANDY WAGON
4-inch Tire Steel Wheels
Empire Manufacturing Co., Quincy, Ill.

M F ROOFING TIN is the best of all roofing. It saves waste of material and time.
American Tin Plate Co., New York.

Send for Our Free Catalog.
It shows large pictures, full description and prices that are in your favor of first-class vehicles of all kinds. Everything in the vehicle line that runs on wheels. A FEW of our attractive lines are steel and rubber tired top Buggies, Surreys of all kinds and styles, Family Carriages, Driving Wagons, Runabouts, Phaetons, light and heavy Spring and Delivery Wagons, Milk, and Bakery Wagons, Buggy and Wagon Wheels in white and painted, Buggy Tops and Cushions, Shafts and Poles. WE HAVE NO AGENTS but sell direct to you at wholesale prices, and save you the middleman's profit. Don't buy until you get our catalogue.
NO MONEY. We ship any of our vehicles subject to examination without any money with order. We will furnish you a better vehicle and save you from $15 to $50. After you examine it, if we don't save you money and if you are not entirely pleased we will have it shipped back and pay freight both ways. So you won't be out one single cent. Every vehicle guaranteed 2 years. Cut this ad out and send to us and we will mail you catalog Free.
MARVIN SMITH COMPANY, 55-57-59 N. JEFFERSON STREET, CHICAGO, ILL.

SAVE 20 CENTS PER SHEEP on every sheep you shear with
STEWART'S PATENT
SHEEP SHEARING MACHINE
The day of the old fashioned hand shears is past. No owner of 10 sheep or more can afford to shear by hand, even though the work be done for nothing. Don't butcher your sheep. Shear with this machine and get ONE POUND WOOL EXTRA PER HEAD. It will more than cover the cost of shearing. Send today for valuable book, "Hints on Shearing." It is free and will save you money.
CHICAGO FLEXIBLE SHAFT CO., 207 Ontario St., CHICAGO.

HAPGOOD PLOW CO.
Something New Under the Sun.
A "Spring Tooth" U-Bar Harrow
A Spring "Spike Tooth" Harrow
Every tooth controlled by a spring. The most unique, ingenious and perfect harrow ever invented. We cannot begin to describe this harrow here and must ask you to send for catalogue and circulars giving full particulars. We give a special discount on the first machine and liberal pay for helping us introduce the same. Farmers write us they would not be without this harrow at any price. Write now. Address
HAPGOOD PLOW CO., Box 596, ALTON, ILL.
Only Plow Factory in the United States selling direct to the farmer.

TWO CROP ESSENTIALS
are cultivation and keeping down weeds. More important than deep cultivation is keeping the surface stirred, breaking the crust due to rains, and allowing the light, air, moisture and warmth to penetrate quickly to the roots of the growing plant. For doing just these things the ideal implement is the
KEYSTONE Adjustable Weeder and Shallow Cultivator.
It kills the weeds at first showing, the top soil is pulverized and kept mellow, the plant roots are not disturbed and the moist soil is not brought up to dry in the sun. Adjustable in width. Narrows to 30 inches, widens to 7½ feet. Strong, runs steady, no cumbersome shafts. Furnished either with round teeth or with flat to suit different soils, as we are licensed by the Hallock Weeder Company to use their famous flat teeth. Weeder booklet mailed free. We also make 10 styles Corn Planters, 12 styles Cultivators, 20 styles Corn Shellers, hand and power, Harrows, Field Rollers, Feed Cutters, etc. Write for catalogue C.
KEYSTONE FARM MACHINE CO., 1548 N. Beaver St., York, Pa.

SHORT CUTS.

BY PRACTICAL FARMER SUBS.

All other trades have resorted to "Short Cuts." To be successful farmers must resort to them, too. In this column we will publish all actual labor saving short cuts made by the farmer on the farm and the housewife in the home. Write and tell us of any labor saving tool you have made, of any method of management or manner of using implements to save time, labor and money, or increase their efficiency. Even the smallest things may be useful and valuable. Hints and helps in the household are always welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Write on postal cards and make articles short. All errors will be corrected by the editor. Address all communications under this head to T. Greiner, La Salle, N. Y.

Storm Board for Roller Doors.—Fasten a pair of strap hinges to a 10 or 12-inch board of a length equal to the width of your door. Set board on its edge against outside of door when the door is closed. Lean the board so the lower edge of it stands out from the door about 5 inches. Now cut the lower edge of the board so it fits over all uneven places under the door. Then with the board in this position fasten the hinges to the door. Now fasten a block about 6 inches high, rounded off on top and one end. Place the block so the rounded or nosed end runs under the end of hinged board about 2 inches. Just so that when the door is pulled open the board will strike the rounded end of block and thus be carried up so it does not drag at the bottom. A little axle grease on the block will make it work easier. If this is put on carefully no snow will blow in under the door. A. H. STEVENS.
Altoona, Pa.

Handy Nail Box.—Have a box 12 inches square and about 6 inches deep made with four bins. The first two are 5½ inches square, for 8 and 10-penny nails; the third is 6½x5½ inches, for 20 or 30-penny nails, and the fourth is 4½x5½, for small nails, staples, etc. Make a double bail of strong wire and attach to centre to carry by. It is handy to carry nails about on the farm to repair fences, etc.
Zelda, O. MRS. ADA PARKER.

Short Cuts for the Kitchen.—If every iron pot, kettle, or any utensil used in the cooking of food, be washed as soon as emptied, and while still hot, half the labor will be saved. It is a simple habit to acquire, and the washing of pots and kettles by this means loses some of its distasteful aspects. If the range be wiped carefully with brown paper after cooking greasy food, it can be kept bright with little difficulty.

Relief for Inflamed Feet.—The first thing to be done is to take off and throw away tight-fitting boots. Then take one pint of wheat bran and one ounce of saleratus and put it into a foot bath and add one gallon of hot water. When it has become cool enough put in the feet, soak them for fifteen minutes, and the relief will be almost immediate. Repeat this every night for a week, and the cure will be complete.
Seymour, Mo. LOUIS KUHNEL.

Short Cut Sash Lock.—Take a piece of lath one-half inch thick, 2 inches long, 1½ inches wide at one end and ½ inch wide at the other end. Bore a smooth hole one-half inch from small end, slightly larger than the shank of a 1½-inch wood screw. Place edge of block even with casing, next to the sash, small end upwards, bottom end just above top edge of lower sash. Drive screw, and it is done. As bottom of block swings over lower sash, it cannot be raised from the outside, but with a finger touch at top above screw brings it out of position so sash can be raised. LEE MCCARTER.
Lisbon, Tenn.

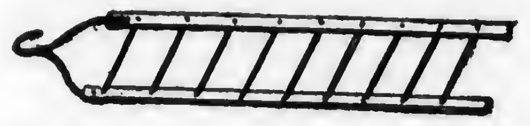
Home-Made Weeder.—I have used a home-made weeder for about seven years. Take a piece, about 6 inches long, of worn buggy tire or old scythe, and put a wooden handle on it. Bend it hook-fashion, and sharpen the edges. I can find no better tool for working onion, beet, parsnip, carrot or any other little plants that have to be weeded and thinned by hand and the ground worked carefully. My boy (13 years old) worked all the onions the past season, with this tool. SUB.
Waddle, Pa.

Hints in Cookery. — Being a student, anxious to save time, I am always on the lookout for short cuts in housekeeping, and am constantly devising new methods, though holding fast to old ones I have tested and found to my notions. My latest and most satisfactory is breakfast between nine and ten and dinner at half past five, when I am not too much more interested in my thinking than in eating and drinking. Often a cup of mild coffee is all I want until noon. When I finish one meal I usually put aside about enough for the next, in case I do not wish to be disturbed by new preparations. Since I have moved in from the kitchen my charming B. B. No. 40, bought from The Farmer Co., not only keeps my fingers warm in the morning until I get my stove heated, but warms water and boils my coffee to begin the day with. Now and then I have hot milk or tea by way of variety. As my oven is worn out, I bake nicely, when I am in the humor, in my skillet, on the heater, by covering with a top or an inverted pan. I place under it a small iron rack belonging to an old alcohol stove. My washstand, placed across the light corner near the window, leaves a space for rags and tags that will accumulate, and a few nails and calico catch-alls help out just behind the marble back.
Butler, Ky. MISS A. E. ARNOLD.

Spreading or Hauling Straw. — A good way to draw straw around to bed a barnyard, is to take a rope about 45 feet long, double it and hitch both ends to the clevis in the doubletree. Now throw a pile of straw off from the stack, and throwing the rope over the straw; take two manure forks and stick them in the straw far enough apart for one man to hold both forks, to keep the rope from pulling off. Now let the other man start the team and draw it around where you want it.
Woodford, O. M. L. JORDAN.

Oiling Clock.—My clock stopped every few hours. I supposed it needed cleaning and oiling, but had no one to do the work. Three weeks ago I set a bottle of kerosene oil inside of the clock, and left the bottle open. The clock is keeping good time now, and has not stopped since I set the oil in it.
Grand View, Tenn. J. A. KIRKMAN.

Emergency Ladder. — Every set of buildings should be supplied with ladders to be used in case of fire, and they should be kept where they can be got easily and quickly. Many buildings have been destroyed because there were no ladders by which the roof could be reached. The illustration shows a ladder with one hook; it is far superior to the two-hooked one. It can be swung around on the roof at any angle and hold equally well. ALDEN S. MOORE.
Morrisville, Vt.



Short Cut Bag Holder.—A very cheap and convenient bag holder is made as follows: Take an old lard can, knock the bottom out, insert it inside the bag and set on floor; shovel the grain or fertilizer in the can and pull up the can as the bag fills. In this way one man can do the work of two. I keep one in barn, one in cellar and one in granary, and find them very handy.
Fulton, Md. N. GRAUEL.

To Clean Range and Oilcloth. — I wash top of my range with soap and clean water, never with dishwater. Do not try to keep top of range or stove black; it is simply wasting your time. Paint sides and pipe with stovepipe enamel; it will last a year, can be washed with soap and water and sponged with a thin glue water it will be a glistening black. I wash my oilcloth with warm water and soap; I used to wash it without soap, as I read so much about soap spoiling it, but it did not look as clean as I thought it ought to; so I tried washing it with soap and drying with a dry cloth, rubbing it till it was dry. After I get through I go over it with a sponge wet in thin glue water, and it gives it a nice, shiny appearance and is easier to wash next time. I have treated my oilcloth this way for two years. I have the half of my kitchen covered with it and it is good yet. I don't think soap hurts oilcloth if it is wiped with a dry cloth till it is perfectly dry. MRS. L. LUTE.
Bruce, Pa.

Sending Letter from Lightning Express.—We are located on a line of railroad. In passing on the swiftly flying coaches, friends often bring for us letters and small packets. They do this in a novel manner. A point has been previously determined on. They simply attach the letter or packet to a small board by rubber bands. This can be thrown from a moving train; a letter alone cannot without being carried along by the suction of the train. Besides, the board may easily be found. A. R. CASS.
Brainerd, Minn.

Handy Kitchen Stool. — Take an old chair having a stout back but minus a leg, having the other three sawed off close to the seat. Also an old-fashioned organ stool with revolving top (if you haven't one of these it can be purchased from a second-hand dealer at a small cost). Strip stool of its worn upholstery. Then the bottom of the chair is screwed to the top of the organ stool. If this happens to be iron instead of wood the chair must be secured by nuts and bolts. Most of them are of wood, and the chair is nailed on by means of long nails driven into chair and stool. When the top is in place pad the chair with an old blanket and then nail on a covering of table oilcloth. The back, too, may be covered if desired, but don't make it too comfortable.
Richland City, Wis. A. E. BILLS.

◆

Catarrh Can be Cured.

Catarrh is a kindred ailment of consumption, long considered incurable; and yet there is one remedy that will positively cure catarrh in any of its stages. For many years this remedy was used by the late Dr. Stevens, a widely noted authority on all diseases of the throat and lungs. Having tested its wonderful curative powers in thousands of cases, and desiring to relieve human suffering, I will send free of charge to all sufferers from Catarrh, Asthma, Consumption, and nervous diseases, this recipe, in German, French or English, with full directions for preparing and using. Sent by mail by addressing, with stamp, naming this paper, W. A. Noyes, 847 Powers Block, Rochester, N. Y.

Sends free Cure for Rheumatism.

"Gloria Tonic," the Saviour of Thousands and and highly endorsed by Celebrities, sent free to all Rheumatics and Blood Sufferers by the original discoverer.

Big illustrated book also free.—Write Mr. Smith without delay.

Anyone suffering from Rheumatism can now be sure of a speedy cure in their own home without any discomfort and no matter at what age by the famous "Gloria Tonic" which has already cured so many thousands and which Mr. John A. Smith, the lucky discoverer and proprietor, sends free to all who write him. He started out by curing himself when he had been given up as hopeless and now that hundreds of thousands have been cured with the very same discovery, he wants to make it known all over the world, but instead of spending a fortune in advertising, the way some do, he will send a trial box absolutely free to every sufferer, so that they can try it free at his expense and see what it will do. Simply send your name and address to John A. Smith, Germania Building, Milwaukee, Wis., and he will promptly send you a free trial as promised, and a large illustrated book telling about it.

It is a purely scientific discovery of rare ingredients and the only remedy known that contains the vital principles necessary in the cure of rheumatism and blood disorders. It is guaranteed to cure acute and chronic rheumatism, scrofula, lumbago, gout, eczema, sciatica, itch, neuralgia, dry tetter, inflammatory rheumatism and all diseases due to uric acid in the kidneys and blood and which sooner or later result in rheumatism. And the worst is it may reach the heart and cause instant death if you delay.

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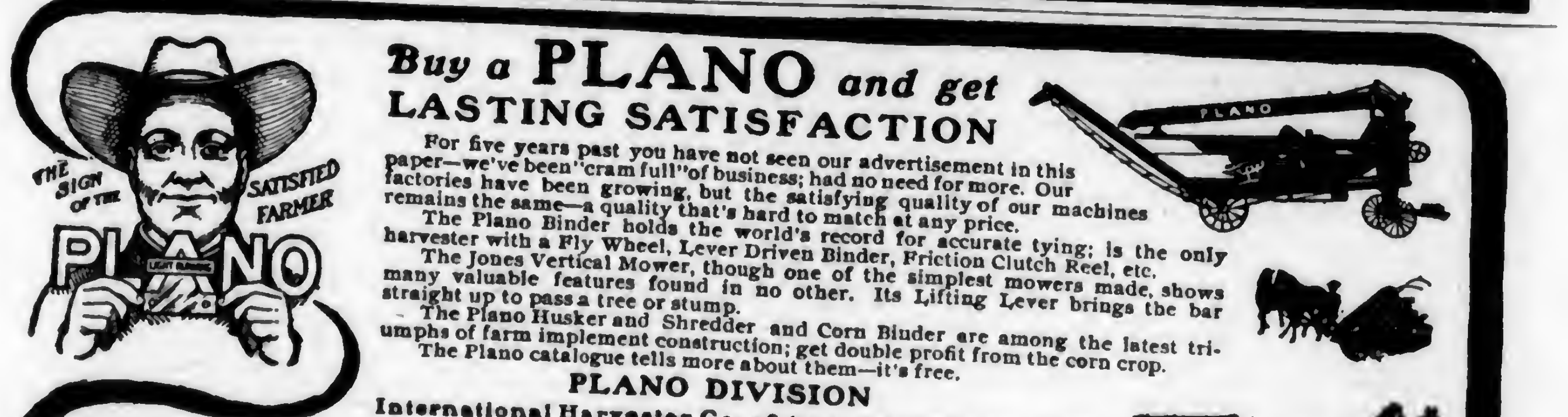
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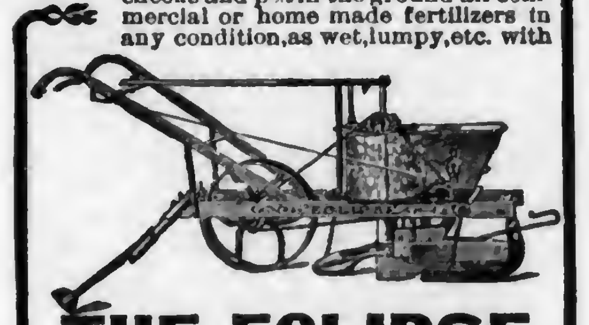

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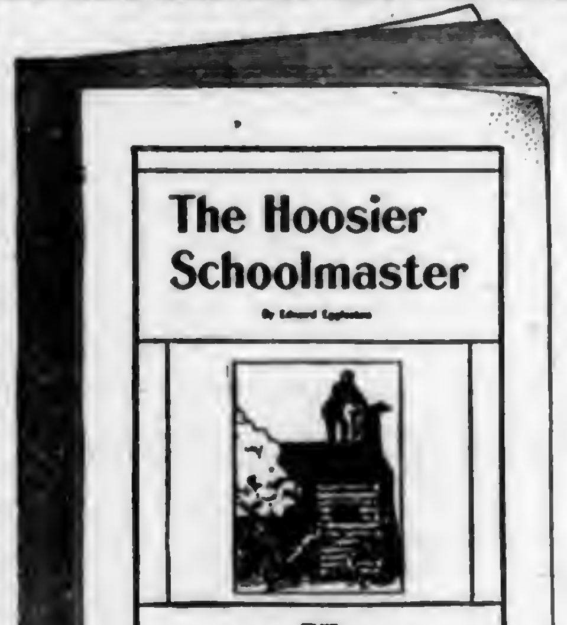

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"Come Back-ah."

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Postal Card Correspondence.

Cherry Creek is located in Chautauqua Co., Western N. Y., on the Erie R. R., about 20 miles from Jamestown, a thriving manufacturing city of about 25,000 inhabitants. Weather very wet last spring and summer; many acres of crops in the valleys were washed almost completely away. We have rural free mail delivery throughout Chautauqua Co., which is much appreciated by most of the farmers. Land sells for $10 to $40 per acre; horses, from $40 to $150 each, and scarce; corn, 53c.; oats, 42c.; wheat, 86c.; potatoes, 60c.; apples, 50c. per bu.; beef, $6.50; pork, $8 per cwt.; chickens, broilers, 20c.; butter, 25c.; cheese, 14c. per lb.; eggs, 24c. per doz. MRS. J. B. LUCE.
Cherry Creek, N. Y., Feb. 10, 1903.

Located in Wabash Co., 130 miles from Chicago. Four railroads run through this county. Summer was cool and wet. Corn is not as solid as we usually raise here, and wheat was not of the best quality; clover hay was put away in poor shape; timothy hay pretty good. Winter so far not very cold; good for feeding stock; plenty of snow to protect the wheat. Prices: Corn, 40c.; wheat, 75c.; potatoes, 40c. per bu.; hay, $8 per ton; butter, 18c. per lb.; eggs, 20c. per doz.; land, $30 to $100 per acre. EDWARD LINDSEY.
North Manchester, Ind., Feb. 9, 1903.

Napa is one of the richest little counties in all California, and it was prosperous in 1902. We are 35 miles from the sea, and 65 from San Francisco, by rail and boat, with cheap freights and the best markets. Altitude, 1,800 feet. The country is broken up into hills and valleys, covered with pine and hard-wood. Healthful, temperate climate without extremes of heat and cold. Fine springs of soft water. Every variety of fruit raised. Cost of living about the same as elsewhere. Wheat quoted at $1.45 per cwt.; oats, $1.35; corn, $1.25; potatoes, 75c.; baled hay, $8 to $10 per ton; hogs, $4 to $6 per cwt.; butter, 25c. per lb.; eggs, 22c. per doz. Twenty-four inches of rain has fallen thus far this season. WILLIAM C. AIKEN.
Angwin, Cal., Feb. 5, 1903.

Located in the southern part of Johnson county, 14 miles from Warrensburg, the county seat. Have had a wet and mild winter. Good farming country. Most all kinds of crops and fruits do well. Country on quite a boom. New Rock Island R. R. being built through our town. Plenty of schools and churches. Rural mail routes and telephones in places. Land selling from $25 to $60 per acre; corn, 33c.; wheat, 60c.; timothy seed, $1.25; potatoes, 25c.; apples, 40c. per bu.; butter, 16c. per lb.; eggs, 17c. per doz.; chickens, 7½c.; turkeys, 12c. per lb.; horses, from $50 to $125; cows, $20 to $40 each; farm help, $1 per day, or $15 per month. MRS. ELMER ARNOLD.
Leeton, Mo., Feb. 7, 1903.

Located in Limestone, in the northeastern part of Maine. The winters here are usually long and cold, and this one is no exception. We have had sleighing since about Thanksgiving time, and expect it till the latter part of March. But little fruit is raised here, though most of the farmers have a small orchard of apple trees. Potatoes are our main money crop, though considerable hay and grain are sold. Potatoes are from $1 to $1.75 per bbl., according to kind and quality; oats, 40c.; buckwheat, 46c.; wheat, $1 per bu.; fresh eggs, 25c. per doz., and very scarce; butter, 20c. per lb. We appreciate the P. F. MRS. M. WEYMOUTH.
Morris, Me., Feb. 10, 1903.

Situated in Franklin Co., between Elk River and Cumberland Mountains, near the N. C. & St. L. R. R. Land generally level, with red clay foundation and dark brown soil. Bottom land has blue or gray foundation, with heavy black soil. Principal crops are corn, wheat, oats, clover and peas. Prices are as follows: Corn, 35c.; wheat, 60c.; oats, 50c. per bu.; good clover hay, $18 per ton; horses, $50 to $100; mules, $75 to $150; cows, $20 to $50 each; hogs, $4.50 to $5.50; beef cattle, $2.50 to $4 per cwt. Garden truck, chickens and eggs in good demand at summer resorts on mountains. Weather reasonably good and farm work well up. C. D. BASS.
Alto, Tenn., Feb. 9, 1903.

Located in Essex Co., 30 miles from Boston, within a few miles of the seashore. Good markets. Quite a summer place. Eleven millionaires within ten miles. Farm help scarce; $25 per month; servant girls hard to get at any price. Apples very plenty, $1 to $2 per bbl.; potatoes, $1 per bu. Grain very high; corn and meal, $1.50; oats, 90c.; feed, $1.20; gluten, $1.65 per bag; good cows bring from $50 to $75; milk worth from 25 to 33c. per can. We have a small dairy of Jersey cows, and sell separator cream at wholesale for 30c. per quart. The farms around here are not very large, and market gardening and dairying are carried on on most of them. We have had a great deal of snow this winter for this part of N. E., and some very cold weather; glass went as low as 22 degrees one day. We like the P. F. very much, but wish we might hear from more N. E. people. Success to P. F. VILLA T. HAWKSWORTH.
Rowley, Mass., Feb. 10, 1903.

A few miles east of the county town of Lancaster, Pa. Limestone soil gives heavy crops, much above State average. This year the straw was so light that a good threshing rig could bag 800 bushels of grain per day, the growth of 20 to 30 acres. Coal anxiety shows the great risk of being at the mercy of foreign miners. Land price is from $90 to $160 per acre; wheat, 70c.; corn, 50c.; oats, 40c.; potatoes, 55c. per bu.; beef cattle, from 4 to 6c.; butter, 28c. per lb.; eggs, 24c. per doz.; chickens, 35c. each. Help was very scarce last season, and prospects for the next are poor. Shipping milk to the city is better than the home creameries. Tobacco sells for from 7 to 10c. per lb. for wrappers, and does not get as much care as in former years. E. W. ESHLEMAN.
Leaman Place, Pa., Feb. 9, 1903.

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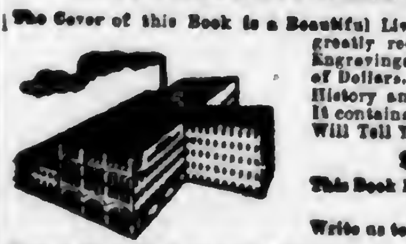

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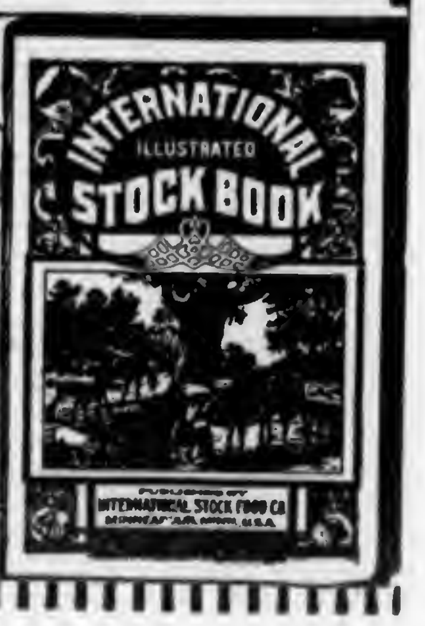

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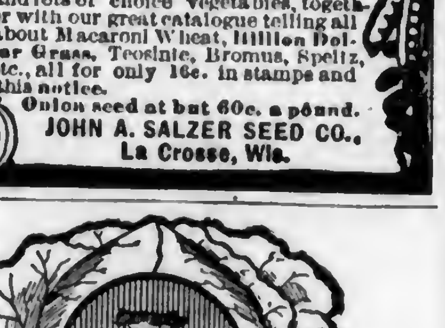

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YOU CAN FEED 4 COWS or STEERS ENSILAGE at same cost as 3 on other Rations. 25 to 40 per cent. saved feeding good sweet ensilage. We furnish you STAVES, one piece, full depth of Silo. Our FREE book, "Silos and Silage," has full details, and much of interest to your purse. WILLIAMS MFG. CO., Kalamazoo, Mich.

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THE GREAT WESTERN Manure Spreader
is the only Spreader made that has an ENDLESS APRON and the many advantages which it possesses. It's always in place and ready to receive the load without any turning back either by hand or complicated, easily broken machinery. The front and rear axles are of same length which, with the Broad Tires Prevents Rutting of fields, meadows, etc. and makes LIGHT DRAFT. SPREADS ALL KINDS OF MANURE, wet, dry, frozen, light, chaffy, packed or caked. Spreads lime, plaster, wood ashes, cotton-seed and hulls, etc. Can be changed instantly to spread thick or thin while the machine is in motion—3 to 25 loads per acre. Has the only successful END GATE AND BEATER AND HOOD PROTECTOR IN USE. Made of best material in every way and sold under a POSITIVE GUARANTEE as to quality, capacity and durability. All parts breaking within one year will be replaced without charge. Write for free Illustrated and Descriptive Catalogue—the best and most complete spreader catalog ever published.
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At the Nebraska State Dairymen's Convention, Lincoln, January 22-23, 1903,
THE HIGHEST SCORE OF ALL
was awarded the Adams Centre Creamery, Archer, Neb., on
BUTTER MADE FROM U. S. SEPARATOR CREAM.
This is only one of the many victories for U. S. Separator Butter this season.
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THE DRAINAGE OF FARMING LANDS
Valuable free book mailed to any one interested. Address JOHN H. JACKSON, ALBANY, N. Y.

Some Men who use our Quaker City Grinding Mills claim that they save fully half the feed. Test this for yourself. We ship all mills on trial and under positive guarantee. Crush and grind all grains singly or mixed. Ball Bearings—run easy. Our 36th Annual Catalogue mailed free. We handle all standard makes of farm implements. Get our prices on what you want.
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Probably you have heard of this famous motto for many years but have *you* proved for yourself that Burpee's Seeds are the BEST that Grow?
If not, write to-day for Burpee's Farm Annual for 1903—so well-known as "The Leading American Seed Catalogue." It is an elegant book of 184 pages, with beautiful colored plates and will be sent FREE to planters everywhere; —to others upon receipt of 10 cents, which is less than cost per copy in quarter-million editions. Write TO-DAY. Do not delay! It is sufficient to address simply
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GREATEST HOUSEHOLD NECESSITY FREE

The "1900" Ball-Bearing family Washing Machine is absolutely indispensable in every home because it makes washday a pleasant, instead of a dreaded duty

No Rubbing, No Stooping, No Boiling and No Wearing Out of Clothes, Can Be Operated While Sitting On a Chair. Saves Time, Labor and Expense.

SENT ABSOLUTELY FREE WITHOUT ADVANCE PAYMENT OR DEPOSIT OF ANY KIND, FREIGHT PAID, ON 30 DAYS' TRIAL. MAY BE RETURNED FREE OF EXPENSE IF NOT SATISFACTORY.

The "1900" Washer will wash collars and cuffs, laces, cambrics, and the most delicate materials, perfectly clean and positively without tearing them or wearing out a single thread. It will wash blankets, bedspreads and the heaviest clothes just as easily and thoroughly.

2 P. M.
AND NOT THROUGH YET-
THE OLD WAY OF WASHING CLOTHES

9 A.M.
WASHING FINISHED
THE NEW WAY

The "1900" Ball-bearing Automatic Washing Machine is the simplest, easiest running, most efficient machine for washing clothes ever invented. It is a thoroughly practical labor-saving machine for washing all kinds and grades of materials, from the finest lace to the coarsest fabrics. It is constructed on scientific principles. It revolves on ball-bearings, which render the rotary movement as easy as the wheels of a high-grade bicycle. The "1900" Washer will wash any garment without boiling, without scrubbing and without wear and tear. There is absolutely no need of using any chemicals. Soap and water are the only necessary things to do perfect work.

The Washing is Done While the Operator Sits by the Side of the Tub, Revolving it by the Handle.

There is no further need for stooping, rubbing by hand or boiling of clothes. The "1900" Washer will wash large quantities of clothes (no matter how much they are soiled) in from 6 to 10 minutes.

It is not a cumbrous affair, for, unlike so many so-called washing machines, it has no complicated machinery, no wheels, paddles, rockers, cranks, etc.; in fact, it is so simple that a child can operate it. Other washers leave the wristbands, collars and the most soiled places unfinished, but the "1900" Washer forces the water through every fibre and washes every part thoroughly clean.

Other machines move the clothes through the water, but this machine forces the water through the clothes, and rubs them at the same time.

The principle upon which this machinery operates is directly opposite to that of any other.

We assert in the most positive terms that any one who gives the "1900" Washer a fair trial will never use the washboard any more, or if any other washer is in use, it will be given up at once. Hundreds of pleased customers will bear us out in this statement. Our offer of sending the washer on free trial, freight paid both ways, is a thoroughly honest and sincere one and proves beyond question our faith in its merits. **No one ever returned a "1900" Washer,** that needed one and gave it a fair trial, and no one would part with it for many times its cost if they could not get another.

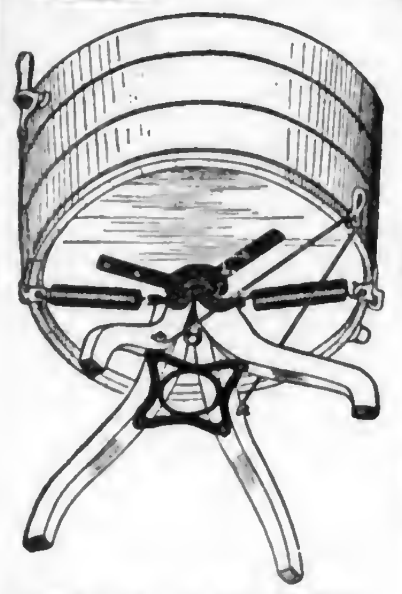
HOW IT OPERATES.

The operator turns it to the right and to the left about half way round each time. To make it work as nearly *automatic* as possible it is provided with two oil-tempered coiled springs at the bottom of the tub, which engage at each extreme point and help to reverse the motion. The machine moves uninterruptedly until it reaches the point where it should be reversed; then it comes in contact with the force of these springs and, like the action of a rubber ball bounds back, meeting the spring force again at the other extremity.

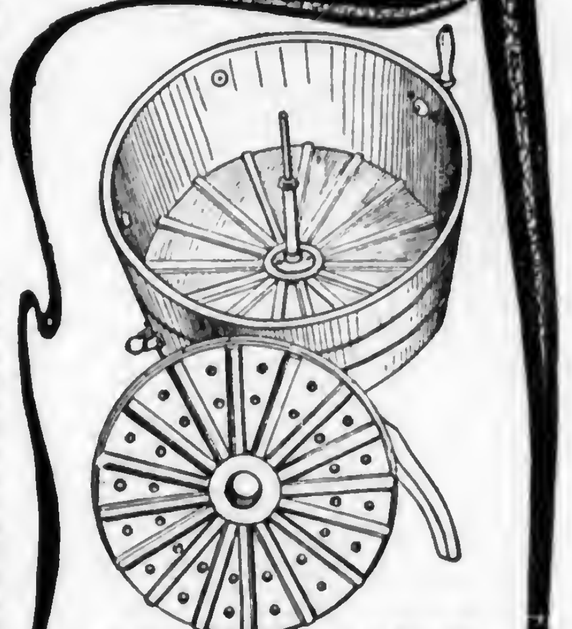
The clothes are placed in the tub and the disk shown in the cut, which we call the agitator, is placed over them with the washboard side down. This agitator does not turn, but adjusts itself automatically up and down, regulated by the amount of clothes and water in the tub. Over this a cover is placed to prevent steam from escaping.

HOW IT IS MADE.

The "1900" Washer is made of the best materials throughout. We would particularly call attention to the tub, which is made of Virginia White Cedar and hooped with galvanized wire, electric welded hoops. These hoops have double the strength of the old style riveted flat hoops. They are embedded, by a patent process, into grooves in the tub and clamp the staves so tightly that it is impossible for the rust to get under them and eat them up. The legs are symmetrical and nicely finished in natural wood, and are united at the top by heavy malleable castings and strongly braced with iron frame below. Through the heavy castings attached to the tops of the legs and up through the tub, runs a heavy cold rolled steel rod. This rod is threaded at the bottom and firmly screwed down through the castings, and is reinforced at the ends by a nut which is drilled and riveted to the rod.



As it Appears Looking Under the Bottom of the Tub.



Inside View of Tub and Bottom of Agitator or Washboard.

REMEMBER, you take absolutely no risk, incur no expense or obligation whatever. The washer is sent by us on 30 days' trial, freight prepaid going and coming, and positively without any advance payment or deposit of any kind.

ABSOLUTE PROOF FROM USERS OF THE "1900" WASHER

$1000.00 Will Be Paid to Any One Who Can Prove That Any of the Following Letters Are Not Genuine:

GOLDEN HILLS, Ill., May 6, 1902.
Please find enclosed remittance for your washer. I cannot praise it too high. I don't see how I have done without it before. No more backache. It is a Godsend to weak women. Please accept my heartfelt thanks to you, *for it is the first free trial I ever sent for that was indeed free.*
Respectfully yours,
MRS. CARRIE STAFFORD.

HART, Mich., August 25, 1902.
Please find enclosed money order to *pay for my washer in full.* We are all well pleased with the washer. A great many people have looked at it. *My mother, 83 years old,* and I, who am a cripple in a wheeled chair, have done our washing in it for the last three weeks.
MRS. ALICE ROUSE.

CUMBERLAND, Md., May 19, 1902.
Have tried the machine again and must say we are much pleased with it and have found it to give the best satisfaction of any we ever tried. I think we had 4 or 5 different kinds, *but find yours the best of them all.*
Respectfully yours,
MRS. J. A. BOPP.

KANSAS CITY, Mo., May 14, 1902.
I have given your washer a fair trial. It is the best washer I ever saw. *It has washed our heavy blankets with perfect ease.* I washed them last spring and rubbed more than an hour and yet they had to go through again, but the "1900" Washer cleaned them thoroughly clean. *We do our washing so quick and have no tired and worn out feeling as of old.* I wish every lady had a washer.
Respectfully yours,
MRS. J. L. BANNER, 4203 Troost Ave.

EAST PLYMOUTH, Ohio, Feb. 2, 1902.
P. O. Ashtabula, O.
We have been using the "1900" Washer since May 15, 1900. Have done over 1,200 washings and I think it is good for as many more. We do family work from Ashtabula. We have used 8 *different machines, and the "1900" beats them all for good and fast work and durability.*
GEO. N. BURNET.

BUTLER, N. J., Oct. 22, 1901.
Please find Money-Order in full payment for Washing Machine. The washer is the best and easiest ever made. I never saw its equal in any Washer. One of my sons, who is an engineer, gets his over-clothes very dirty. They have been washed by your "1900" Washer just as clean as when they were new. It washes everything perfectly clean. It runs so easy that my little granddaughter did the first two tubs full. It is a marvel and I would not part with it for $100. In two months it will pay for itself.
Respectfully,
MRS. MARTHA WITTY.

WASHINGTON, D. C., Sept. 8, 1902.
You will find enclosed payment for the "1900" Washer. It fully comes up to our expectations and is all that you have claimed for it. We will take great pleasure in recommending it to all who wish to avail themselves of one of the *greatest labor-saving devices of modern times for domestic purposes.*
WM. F. SALTER.

For catalogue and full particulars of this liberal and absolutely genuine offer address

"1900" WASHER CO.,
23J STATE ST., BINGHAMTON, N.Y.

THE PRACTICAL FARMER.

THE KEYSTONE TO SUCCESSFUL FARMING

Published Weekly By
THE FARMER CO.,
Market & 18th Sts., Philadelphia, Pa.

Vol. 86. No. 9. Philadelphia, February 28, 1903. Price, 5 Cents. {$1 per Year in Advance

AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

All About the Wonderful Alfalfa Crop. —Its Value and How to Grow It.

The writer has in his corps of workers, at the Minnesota State Institutes, J. E. Wing, the man who has done so much with alfalfa in Ohio. He is telling Minnesota farmers what alfalfa will do, and how to make it grow on soil that is suitable for this crop. A brief outline of this very valuable talk will be of interest to many. First, let me say that friend Wing has made his farm produce about eight times as much gross income as it did scarcely more than a dozen years ago, when his father gave up the management. I will tell you the story of this building up of fertility some time. It is one of the most inspiring talks ever listened to on an Institute platform. In substance Mr. Wing says: Alfalfa has brought greater prosperity to us, and to others that have succeeded in making it do well, than has any other single farm crop in the world. A ton of alfalfa hay will do more to build up a young animal than a ton of corn. It is almost equal to wheat bran, ton for ton. It is fine feed for work horses, cows, sheep and lambs, brood sows and pigs and all growing animals. We have made our corn bring us $1 a bushel by throwing in the alfalfa the pigs ate with it. With ordinary hay and corn and wheat bran and linseed meal our lamb and mutton used to cost us $6.25 per 100 pounds, best we could do. At this price we could not live. Using alfalfa and corn only we have found that it takes a little longer to fatten the lambs, but they are just as good in the end, and the cost is only $3.50 per 100 pounds. We grow all we feed; no money paid out for bran and oil meal. Alfalfa and corn are our crops, the greatest crops that can be grown. The alfalfa hay contains more digestible nutrients than corn; it contains even more of the carbohydrates and more than three times as much protein as corn, acre for acre. You see it works for a longer time, from the very earliest spring opening until winter shuts in. We use it for pig pasture and for beef cattle to run on also. It is No. 1 for both, but one must have more than one pasture lot and never feed the crop off closely. Turn the stock into a fresh field as soon as they have partly eaten what was in the first one. Then run the mower over the pastured field and make hay of what the animals may have left. This is apt to be left in spots here and there. In about two weeks the crop will spring up fresh and be ready for pasturing again. Do not pasture when the plants are frozen. No stock should ever be turned on alfalfa the first year. On his farm in Central Ohio Mr. Wing always cuts four crops in a season. The four crops make from four to six tons of hay per acre. More has been grown in some sections, even up to 8 or 10 tons per acre, but 5 tons means a large amount of valuable feed per acre. Remember alfalfa hay is more than 50 per cent. richer in protein than red clover hay, and protein is what you need with corn. Mr. Wing is cutting some 300 tons or more per year of this alfalfa hay, and still many Ohio farmers have tried it, even Mr. W.'s neighbors, and almost to a man they say alfalfa is not adapted to Ohio. It is the old story; one man knows how; the others do not. Mr. W. says that probably 95 per cent. of all experiments in alfalfa growing east of the Missouri River have been failures, and still with proper knowledge 95 per cent. of these trials might have met with success. Alfalfa is not a crop for short rotation, like red clover. It will continue producing large crops of hay, when once well established, for many years, say 10 to 40, according to locality. It seems to do well with Mr. W. about a dozen years. Then with three heavy horses and a very sharp plow, kept filed off every little while, the sod can be plowed. And then what follows! Such as never grew on the land before. Alfalfa increases the fertility of soil probably more than red clover does. It roots very deeply; in fact, the roots will go down so far as there is anything to go after, be it 10 feet or 50, providing water does not stop them.

Now about where to try the crop and how. Do not put it on low, wet land. Water must not stand in the subsoil within three feet of the surface. The soil must be rich, even very rich, to start this crop. If it is not very fertile you must manure it and make it so. The soil must be fairly supplied with lime. Mr. W. manures heavily for corn and keeps the crop perfectly clean. Pigeon grass and all such weeds make serious trouble in alfalfa crop. Plow corn stubble deeper than ever before, quite a little, and roll and harrow ground until it is very fine and firm. Mr. W. uses a roller weighing 2,200 pounds. The ground must be made solid, when dry, of course, below the seed. Put the seed in broadcast, about one inch deep on ordinary soil, deeper on loose, light prairie soil. It is usually best to sow seed alone. However, three pecks of oats can be put in per acre if you will surely cut them for hay just as soon as they begin to head. If left to mature they will destroy the crop, usually. Mow close to ground. Have land smooth so you can. If not too many oats you can leave them on the surface for a mulch. If the alfalfa stops growth, when sown alone, by the time it gets 8 to 12 inches high, and begins to turn yellow and partly die, mow it off at once close to ground. Mow again when it gets about same growth a second time with same appearance. It may need cutting off three times. Treat oat stubble sowing the same. If left without cutting, under these circumstances, it will die out. Mr. W. sows 15 pounds, 1 peck, per acre. All this time, while you are mowing off the tops, the roots are going down and you are preventing the rust from killing the plants. But now, with all this care, the crop may be a failure. Why? For want of the bacteria in the soil that are necessary for its success. They are not likely to be found in new territory. As alfalfa has practically no small roots in the surface soil, it cannot get nitrogen enough to thrive except through these little nodules (bacteria) on the roots, by means of which it gets it from the air. If your plants fail to thrive, after above attention, dig out some roots carefully and examine them. If there are absolutely no nodules present you must inoculate the soil. If there are any you are all right. They will soon multiply. To inoculate, send to where alfalfa thrives and get a bushel or two of soil, taken from within six inches of the surface, and scatter evenly over an acre, say. By this method the crop has been made to thrive marvelously where it failed before. This is not the same bacteria that is found on red clover. Enough bacteria may be on seed you buy to start the growth in your field. Mr. W. got his in this way, as he supposes. The bacteria will not thrive in sour soil; lime or ashes will correct this condition. You can sow bacteria soil on surface and rain will carry it down. Get Northern grown seed, and from a reliable dealer. Seed from California will not make plants that are hardy in Ohio. Good seed is now from $8 to $10 per bushel, and hard to get. Try alfalfa only in a small way until you learn how. Mr. W. has made it grow on poor land by heavy manuring once, since which he has taken off 15 or 20 large crops. Seed can be saved from second crop the third year. It is ready to cut for hay as soon as one in ten of the plants are in bloom. Another crop will spring up in about a month. This and all other crops must be cut off at proper time, whether there is hay enough to pay or not. Alfalfa is cured about the same as the other clovers.

Health Hints. — Why Writers Disagree.—White and Whole Wheat Bread. —Once in a while some friend writes that these hints do not agree with what he has read in some book. Well, if he would buy all the latest books treating on health matters, written by different authors, he would find that they disagree widely. For example, one says we should rest for an hour after eating, and, in some cases, much longer, before doing work with brain or muscles. Another says, if we want to develop the muscular system, or brain power, we must go directly to using them after eating proper food. One argues for rest, so the stomach can have the full use of the blood to carry on digestion; the other for work to draw the food elements directly to muscles, or brain, and says rest would lose us the very best results. Again, one man advises the cool bath every morning in the year, followed by brisk rubbing. Another claims this to be a dangerous practice, and even goes so far as to advise, in case one must bathe, that he wash half of the body one day and the rest the next day, keeping the other half covered, so as to not shock the system so much. But he thinks it would be still better to let water alone and depend on rubbing with dry towels to keep clean. One would have you build up the vigor of system, you see; the other favors babying it and losing more and more our resisting powers. I can give you scores of such instances where writers are directly at variance, and from books written within three years. In such cases someone is wrong. These hints are trying to give you the truth on these various points, gathered from the weight of evidence, and from common sense, and actual experiment by the writer. It is no easy task to do this. Months and months of hard study, and of actually trying a practice, where there was doubt, have preceded some of these simple talks you have read in a few minutes. Probably the future may show that we haven't got some points just exactly right, but every possible effort is made to have them so. This disagreement among the best writers comes from lack of study and breadth of knowledge covering all matters treated. They give their own views, many of them excellent, on some points that they have given much time to, perhaps exceedingly valuable, on others weak and faulty. Readers must have common sense and think for themselves when reading almost any book now before the public. This brings to mind another common fault with writers. A man perhaps gets some good ideas along some line and he rushes into print. To fill up, he copies some matters, in substance from others. Thus one book has many of the blunders of others copied into it. To illustrate, I bought a new book recently, about health matters. In the main it is excellent and contains the best of modern ideas. But there is one chapter on "The White Bread Curse" that, in my opinion, is largely wrong and unsound. The writer simply took his ideas from old authors that were wrong for things as we find them now. He says white bread is more like the staff of death than the staff of life, as it is called; it is deficient in constituents necessary to feed muscles, brain and bones; a large part of these valuable food elements have been removed with the bran and shorts. This is a great question, and of vital importance to the American people. Let us follow over some of the study necessary to get at the truth of this matter. This book says (copied from old authors) ordinary white flour contains 12.0 per cent. of nitrogenous elements, feeding muscles and brain, while whole wheat flour, made from same kind of wheat, contains 21.8 per cent. Now this same book, on another page, gives the entire grain of wheat as containing 12.5 per cent. of nitrogenous elements, and shredded wheat, which is made from entire grain, has 10.5 per cent. This last is practically correct, as the Maine Experiment Station gives the amount in shredded wheat biscuit as 10.6, and says this is what is found in good quality of winter wheat. The book's report of nitrogen in the whole grain of wheat, 12.5, would be right enough for some wheat grown further Northwest and harder, or for winter wheat with some hard spring wheat in it. Its analysis of ordinary white flour is not very far from correct, 12.0 per cent. The Maine Station says a good quality of bread flour contains 13.1 per cent. The U. S. Bulletin gives patent high grade flour as containing from 11.0 to 11.7 per cent. nitrogen. Of course brands of flour vary somewhat, but to make good bread it must be about up to the figures given, from 11.0 to 13.0 per cent. The book, you see, strikes a fair average. But now, where under the sun did they get that 21.8 per cent. in whole wheat flour? If the whole wheat only contains 12.5 per cent. how can they grind it and make 21.8? The book is convicted of gross error, you see, right from its own figures. Notice carefully, the writer of the book says a large part of nitrogen is removed with the bran and shorts, from the white flour. Cornell University Bulletin tells us that bran contains 12.2 and middlings 12.8 per cent. of nitrogenous matter. How could adding that to white flour make it contain 21.8? That chapter of the book would be better left out. As far as furnishing muscle and brain material is concerned, white bread is all right. As the U. S. Bulletin says, in general there is little difference in food value between flour and the various wheat preparations. The Maine Bulletin agrees with this, and so do all high authohitles now. You were told this clearly in these articles a year or two ago. But it must always be remembered that where there is any trouble from constipation whole wheat or graham flour is better because of its action on the bowels.

T. B. Terry.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Pigs vs. Poultry. — P. Peppercorn, Rose Hill, N. J.—"In your answer to H. Helson, page 65, you advise him that it would pay him as well to keep pigs as poultry. But according to the best information I can get I work out that pigs will pay far better, and the inital investment in buildings would be less than one-fourth. I am going on the basis of keeping two horses, two cows and ten pigs. For the fourteen animals it would require 6 tons of hay, 8 tons of stalks, 260 bushels of corn, 200 bushels of oats, 8 tons of hay and 8 tons of corn meal. I would put 4 acres in corn, 4 in oats and 4 in hay as the regular rotation, leaving 4 acres as pasturage for the pigs. This would produce 240 to 300 bushels of corn, 200 to 250 bushels of oats, 8 tons of hay and 8 tons of corn stalks. The sows would produce 75 to 100 pigs yearly, according to Mr. Henry, and would bring in $1,200 to $1,500 a year. To make this from poultry would require 1,000 to 1,500 hens, which it would take several years to accumulate, and to house them would cost $700 to $800, while the pigs can be housed for $100." There is nothing so risky as farming on paper. Mr. Terry, in the article to which you refer, gave his opinion on the matter. If it came to the point of choosing between pigs and poultry on a 16-acre place, we would take the pigs every time. But, on the other hand, someone who has a special liking for poultry and who would give them the proper attention, would select poultry, as Mr. Terry does. But while we believe that we could do better on such a little place with pigs, we would not figure on any such results from them as you do. As we have said, farming on paper is a risky matter. It is very easy and the results work out very finely. But when you go to farming the earth the crops are not always so large as you figure, nor are the sows so prolific, nor the pigs so certain to grow up. Crops sometimes fail, and the cholera sometimes takes the pigs, as we know from dear experience, for we once lost 75 out of 110. When such a thing takes place, one is apt to wish he had some other stock. But the whole question is one of the adaptability of the man and his soil to the business. My own opinion is that 16 acres is too small a piece of land for a man to expect to make a living on, unless it is as a market garden, well located for market. With that much land of good quality, well situated for market we could make a living, and more, with ease.

Cow Pea Hay.—H. A. Snyder, Snyder, Va.—"I am much interested in Mr. Henry's way of raising pigs. But do they not root the permanent pasture? I sowed some Black cow peas, and by the 20th of September, the best time for wheat sowing here, they had no yellow pods. I cut them, but the stalks were so large that the leaves cured first and when put into the barn the fourth day, they moulded badly. Do you think that if I sow Warren's Extra Early or the New Era I would have better success with them?" We know nothing in regard to Mr. Henry's methods further than Mr. Terry has told of them. We are certain that if we were to put pigs on a grass sod here, without ringing their snouts, they would root it all up. Perhaps the pigs up there are better trained, or have rings in their noses. We think that it is possible the Whippoorwill pea will do better for you than others. It is not the time one leaves his pea vine hay in the field, but the condition it is in when stored. If you let it lie in the cocks several days it will always mould when you put it in. We never allow the vines to get to heating in the cocks. If we have to leave them out longer after the first day we turn them daily and shake them up. Your peas were greener than they should have been, and hence took a little longer to cure. On strong land we find it better to sow thickly to prevent the stems getting too stout.

Permanent Pasture. — "Subscriber," Winston-Salem, N. C. — "I have some sandy soil, with yellow clay subsoil, sloping to the north. It is hard to keep it from washing, and as I keep 16 milch cows and the land is near the barn, I wish to get it in grass. Have been thinking of using Bermuda grass. If I put Bermuda there could I ever get rid of it, and would it be likely to get scattered and become a pest? I would like to know how to get it in pasture most quickly. It is now mainly clover sod." While the Bermuda would give you a good summer pasture we would advise you to keep it out of your section unless already there, as we suspect it may be. But you can grow other grasses that will do better in your section of the State than Bermuda. We would advise you to prepare the land at once by a good plowing and harrowing till in fine order. Then sow 10 pounds of orchard grass, 5 pounds of red top, 10 pounds of English blue grass (poa compressa) and 5 pounds of white clover. Mix the grass seed and sow this amount per acre. Then sow the clover seed and brush it over lightly with a smoothing harrow. If you can give the land an application of stable manure or complete fertilizer, all the better. Do not pasture it much the first season, and not at all until it is well established. Then, as it is handy to the barn, you will be able to give it a top dressing every spring and keep the grass good.

Crimson Clover. — E. G. G. Bratton, Ryde, Pa. — "Will crimson clover, if sown in corn at last working, and turned under either for corn or oats be of any benefit to the land?" Certainly it will. If it stands the winter well it will have almost completed its growth by the time it will be necessary to plow the land for corn. It would be better to let it get into bloom, but that would make your corn too late, as we suppose that it would not bloom with you till along in May. We have known a piece of land sown in clover among the corn and planted in corn for a number of years with increasing crops. We do not consider this the best plan, but it was an experiment to show the value of the annual clover.

Sowing Grass Seed. — C. L. Carroll, Cherryville, N. C.—"I want to sow some grass on upland and want to know what to sow. Land is sandy, with a red and yellow clay subsoil. When to sow the seed, how to prepare and sow, and when it should be mown? Also say where the seed can be had." Read our answer to "Subscriber" at Winston-Salem in this number, as the advice there will suit you fully as well. It is always best to sow grass seed in the fall, but you can get a good stand in the spring if the weather is favorable. Instead of the white clover advised in the other reply we would advise you to use the ordinary red clover, as you propose to mow the grass for hay. Sow the seed just as soon as you can get the land in order. You can get the grass seed from Wm. Henry Maule, Philadelphia.

Crop Rotation.—P. E. G., Gladstone, Ala.—"Kindly criticise the following rotation for Madison Co., Ala.: Corn, cut and followed by winter oats. These followed by peas, and peas by wheat. Sow peas after wheat and rye on pea stubble to be plowed under for cotton. Sow crimson clover or rye among cotton, and use all available manure on this for corn. I plan a four year rotation because I want to grow oats and not neglect corn or cotton. Can 300 pounds per acre of acid phosphate with 4 per cent. potash be drilled with peas without injury? This rotation brings half the plowing when the weather is very hot and apt to be dry. If cover crops are used, the fall and winter cannot be utilized for plowing. Hence more stock would be needed to do the work quickly in the spring. Is this climate liable to be too severe for winter oats? I tried them last year and they froze out. Will crimson clover grow here?" The rotation proposed is a very good one. As you say, there is, at times, some trouble in the getting of the land ready for peas in summer, but if you get the disk plow this trouble will disappear, for it will break the land no matter how dry. It will be far better to have more work animals than to let your land lie without cover crops in winter. While the winters in your mountainous section are apt to be sharp at times, we can see no reason in the climate for your failure. It is true that some had them frozen out even here, while ours were but slightly hurt. Ours were sown early, and therein lies the whole secret if your seed is right. It is important to have Southern grown winter oats, and we prefer the Virginia Gray Turf oats. A while back the editor of a Northern agricultural paper, in reply to a query, told a subscriber that there was no difference between spring oats and winter oats, and that either would do to sow in the fall where the climate was mild enough to winter oats through. The reply showed that there are still men in editorial chairs who do not know as much as they should. The Northern oats that are commonly sown in the spring, if brought South and sown in the fall, will get killed as certainly as in the North. The oats that are sown here in the fall are the survival of the fittest, and have developed characters that make them more hardy. We have grown the winter oats under the shadow of the Blue Ridge in Virginia, and we suppose it was colder than in Northern Alabama. Crimson clover should do well with you if sown in September or October.

Sweet Potatoes.—Marietta Wise, Accomac, Va.—"I have a farm of 44 acres of good land, not rich, but responds quickly to improvement. Our great trouble is labor. We grow sweet potatoes, round potatoes, onions and strawberries, and corn and fodder for home consumption. The most expensive part of this farming is the making of compost for the sweet potatoes. This consists of pine leaves and woods earth, with an occasional layer of manure if we have it. The compost is made in December and spread early in March. Now cannot we grow sweet potatoes without all this labor of composting?" We have traveled repeatedly on the railroad through the whole length of your county, from Cape Charles northward, and have been struck with the fact that there is no effort made to cover the land with vegetation in winter. Field after field and mile after mile we passed and saw only bare land from which the garden truck crops had been gathered the fall before, and left so. Then we saw men raking into piles all the pine leaves and black soil they could find in the woods and they were hauling this on these bare fields. Of course this is a good thing to do if you cannot do it better and cheaper, for the pine straw and woods earth do add humus and some plant food to the soil. But if the gardeners would but realize that a rotation of a crop is as important to them as to the grain farmer, and would go to work and determine that no land should lie bare in winter and lose as much fertility as they would haul there in the woods earth, then the whole matter of having something for the potatoes would be settled. In September sow rye and crimson clover on every piece of vacant land, and even on land that comes vacant later rye can be sown in your climate up to Christmas. With a good growth of rye and crimson clover to plow under in the spring you will have an amount of humus-making material that you could not haul there without a great expense, and it will be there all winter catching the fleeting nitrogen and saving it for the crops. Then having this to turn under, you will need less nitrogen in your fertilizer. Then as to the composition of the potato fertilizer. Your soil does need potash, and potatoes, both Irish and sweet, are greedy consumers of potash. Hence in a fertilizer for potatoes we would use about 8 to 10 per cent. of potash. We are perfectly familiar with the soils of Accomac, and know that their chief needs are for nitrogen and potash. The clover will help you to nitrogen more cheaply than you can haul it in compost, and it will pay you to apply the larger part of the acid phosphte and potash to the clover and rye that are to be turned under, thus getting a heavier growth and getting all back into the soil again when plowed under. We have no objection to the hauling of pine leaves where there is leisure for it and plenty of help, but the sweet potatoes can be grown more cheaply and better by using the legumes grown on the land. Your Accomac cultivators need to learn good gardening, just as our farmers need to learn good farming. As we pass by their places we are pained to see the large amount of labor they waste in doing what could be done more easily and cheaply if they only knew gardening as a business.

Adjustable Weeder.—H. W. Whitney, Chadbourn, N. C.—"Last fall the P. F. asked that someone who had used an adjustable weeder, give his idea of its advantages over one with a straight frame. After using an A-frame weeder for four years, can say that I would scarcely know how to farm without one, much less to raise either early vegetables or small fruits; also that all Mr. Terry has written in favor of the use of weeders in general, is true of the adjustable A-frame. Besides this, the makers of the A-frame claim for their weeder that it can be closed up to run between rows and be used long after the crop is too large for the use of a straight frame; that having no shafts in the way it can be run out nearer the end of the row. That the wheel prevents any wobble and regulates the depth, all of which is true. In addition, in the cultivation of dewberries, with rows six feet apart and stakes driven along the rows, the straight weeder would not go through, and is therefore useless; and in strawberries worse than useless, because it would destroy the plants in the row without touching the soil or the weeds between, while the A-frame is an ideal cultivator for both. The Southern farmer is in the habit of planting most of his crops on lists or beds, and this is a decided advantage in the raising of early vegetables. The A-frame weeder just seems to fit down between these beds—when properly adjusted—regardless of their height, fining the soil and keeping down the weeds without disturbing the plants in the row. As proof that the truckers here appreciate the advantages of the adjustable weeders, their number is on the increase each season, and in almost constant use, while none of the old straight frame weeders can any longer be seen, only hanging on the fence, or piled up in some out-of-the-way place."

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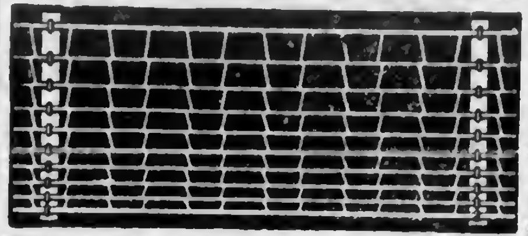

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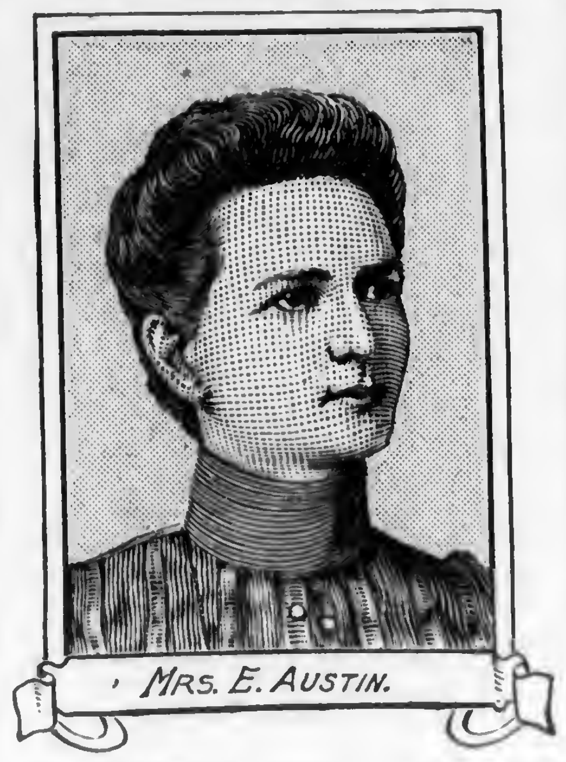
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New York City, Nov. 9th, 1902.

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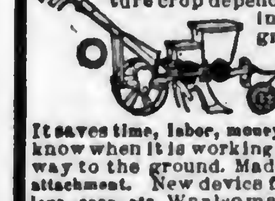

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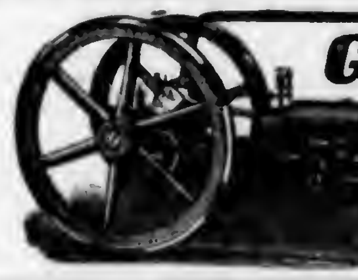

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Ensilage for Sheep.

DR. GALEN WILSON.

It has been a question for a long time, and is yet in some sections where it has not been tested, whether or not corn ensilage is a suitable food for sheep. Those who have in-lamb breeding ewes to care for have grave doubts about it, fearing it might be productive of abortion. There has been an indefinite, widespread "say so" concerning such effect, but these can rarely be traced to any authentic cases of the kind. And then the large sheep feeders, particularly in the corn belt, often bring forward the question and say if only corn silage would answer the purpose of grazing or hay in fattening sheep, how handy it would be, for then we would have both fattening food and the heat and muscle formers grown in close proximity. And then recently a large farmer in New Jersey, who has a very superior soil for growing corn, desired to know if he could make silage the principal roughage the year around for fattening lambs and sheep. If so, residing between two large cities, as he does—New York and Philadelphia — he could purchase feeding sheep at the Western or other stockyards, fatten them and make a fine profit, as he is so near two markets and would have great advantage in selling.

Now, I have been interested in these subjects deeply and have been investigating them for years, and think I am able to speak of them as by authority. As to corn ensilage producing abortion in ewes, it does not if it is sweet and free from mould and taint, and is fed in reasonable quantity. Two or two and a half pounds a day, fed with a pound of hay, is a fair ration for a 100-pound sheep. When a little grain is to be fed ewes also, it should be oats or bran, or both. Ensilage for sheep takes the place of roots admirably. Its succulence encourages the secretion of milk and makes the lambs strong and vigorous. Those who have a silo and grow hothouse lambs have no fears of feeding the young things all the ensilage they will eat, placing it in troughs in a lamb creep. Undoubtedly in-lamb ewes fed liberal quantities of sour, mouldy or otherwise tainted ensilage, would be likely to abort; but they will not eat this if they can get a sufficiency of other food suitable for them that is sweet..

In regard to ensilage as a food for fattening sheep at any time of year, it works admirably if a due proportion of hay is fed with it, say one-third in weight. As sheep are always fond of a variety, corn fodder may be alternated with hay and occasionally a light feeding of straw would be relished. It should be borne in mind that when corn ensilage and hay are the principal roughage of fattening sheep, the grain given them should be more of a nitrogenous nature. A third each in weight of corn, oats and wheat bran answers very finely. One may arrange this mixture a good deal, according to the amount of each he has on hand; but the ensilage should occupy a prominent part in the ration. At first, ensilage should not be given in too great quantities. Feed it gradually until the sheep acquire a taste for it. I see no reason why the New Jersey gentleman quoted, nor any good sheep man similarly situated, could not make a grand success on the lines suggested.

Thompkins Co., N. Y.

Stock Queries.

Jackass.—1. At what age does a jackass cease to be profitable for breeding purposes? 2. Can their age be determined by the teeth as in the horse? 3. I have the chance of purchasing one about 14 hands high, which weighs 850 to 900 pounds, 13 years; price $200. Is the price reasonable?

Laing's, O. OWEN HURD.

(Reply by H. Stewart.)

1. The ass is a horse by natural affinity, being a species of the genus Equus, going by the name Equus Asinus. It has all the specific peculiarities of the family, and thus, as to its physical abilites as well. The ass is really a more vigorous animal than the horse, and quite frequently outlives it, so the mule—partaking of this peculiarity of its male parent—is also a long and hardy liver. It has been known that a stud ass has been in service up to the age of forty years. 2. The teeth of an ass are quite as trustworthy an indication of age as those of the horse; but this, of course, is modified to a large extent by the condition of the animal due to its former treatment, especially to its feeding. The price of a stud ass depends wholly on its successful service. If the ass in question is in good health and condition the price mentioned is quite reasonable.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 1016 Davis St., Evanston, Ill., who has editorial charge of this department. All inquiries requiring answer by mail must be accompanied by a fee of $1 each.

Lameness.—I bought a horse over a year ago that was slightly lame in hind-quarters. He was worked hard for one year in livery. Would start off stiff, but would warm out of it somewhat. Would hold up left hind leg and hop along. I have not used him for two months and he is a great deal better. He runs in play, rears up, rolls clean over and can get up in stall as quick as any horse.

Middlesborough, Ky. F. M. GORDON.

The hock joints are probable seat of the lameness. To test this have him led out to halter. Lift hind foot and hold it up as close to stifle joint as possible. Keep it there for three or four minutes, then drop it and have horse trotted away at once. If the hock joint is involved he will now be very much lamer than he was before the hock was thus tested. Do this with both hocks in succession and compare action of both. If he goes very lame when thus tested, he has either an apparent spavin (bone) in the hock joint of the lame leg, or an occult (hidden) spavin within the bones of the joint. Rheumatism may be the cause of this condition of the hock joint, and unless the spavin is large there is little promise of recovery. If great lameness is caused by above test and no spavin can be seen it is little use to treat him. If there is a large spavin it should be puncture-fired and blistered, after which he should be tied up in a stall for six weeks so that he cannot lie down. Write again if you do not find what we suspect in this case.

Lameness.—I have a young horse that is defected in right hip. When standing he puts his right leg forward and a little to outside, and always favors it when standing. He has been that way about three or four months. J. W. B.

Centre Point, Texas.

We are unable to locate the seat of lameness from your description, but if you are sure it is the hip, then clip the hair off and blister with cerate of cantharides; then allow a long rest in box stall. It is probably injurious to lameness to allow free exercise in wheat field. We rather suspect that the stifle may be the true seat of the lameness.

Death of Ram.—I have just lost a valuable ram. I brought him home on a buckboard, crated, 50 miles, over rough roads, as carefully as possible. Noticed at the depot that he was running from nose badly. He seemed a little dull for a few days, then served about 40 or 50 ewes. I had him out in good clover and blue grass pasture. Fed three handfuls of oats and one of bran, sometimes a little less, twice daily. He always walked with his back humped up and would lie down after. Four weeks ago I noticed he refused his grain and would not pasture. I gave him a cupful of raw linseed oil. He coughed some; skin very pale; ears down; head thrust out when down for a rest, and acted dull. Post mortem examination showed badly congested liver; lungs partly so, and skin bloodshot all over back and sides; no food in third stomach; paunch partly filled; dung just right at all times; urine scanty until day before death, when about right.

Fisher, Ore. THEO. CRANZ.

In the first place, we do not think it fair to say that running at the nose is a peculiarity of Cotswold sheep. We have had experience with this breed and they are not more liable to catarrh than other sheep. At this time of the year discharge from the nostrils is common on account of grubs in the nostrils and sinuses of the head. It may be that this ram was thus affected, and it is certain that there was little serious the matter with him when he served forty or fifty ewes. Congestion of the lungs might be the cause of death, and the body is frequently bloodless after death when that disease has caused it. It was natural for the liver, etc., to be similarly affected at time of opening the carcass after death.

Verminous Bronchitis.—The cattle in this section are dying from an unknown cause. They are taken with a hacking cough, followed by scours. They do not seem to lose appetite, some eating even after they are down. Some die suddenly, others linger several weeks after attacked.

Maryville, Mo. E. E. SMITH.

Full information on this subject has recently been given to Mr. Elmer Fraser of your town, with whom you may be acquainted. The cattle are afflicted with verminous bronchitis, due to thread-like worms in lungs and windpipe. You will find answers in recent issues regarding this disease. Calves should be kept off of old pastures. Turpentine may be given internally with good effect, and the affected animals should be treated to the fumes of burning sulphur or from tincture of iodine poured upon a hot brick placed in a sack into which the head of the calf is to be inserted over and over again. The most important matter is to feed generously and the food given should be nitrogenous in character, such as ground oats and bran with oil meal and dried blood meal, the object being to brace up the systems of the animals against the ravages of the pests. It is poor policy to pasture young cattle on corn stalks and old pastures without generous food, as it is where such pastures are used that most of the outbreaks of disease take place.

Chronic Sore. — I have an 8-year-old cow that has a sore in front of her udder. The cow is in good flesh and eats heartily. Has been fresh four months.

Burgettstown, Pa. I. N. OGLEVEE.

The fact that there is a bad odor in discharge coming from sore indicates that there is diseased tissue present which should be carefully removed. It may be that part was snagged by a stick or some such object, which may have left a sliver behind, which is the cause of the sore not healing. Examine the sore carefully and probe it to determine its course and depth. Scrape it out and remove foreign body or diseased or dead tissue, wash out with antiseptic solution and afterwards inject 5 per cent. solution of protargol and repeat this injection twice daily until healed. We have seen sores of this sort connected with the stomach and feed would come from them after meals. These were fistulous sores, and incurable. Write again if necessary after you have made the examination as advised above.

Knuckling.—Please tell me what is the matter with my mule. He is what the natives call up on his toes. In other words, judging from the way he stands on his hind feet, I should think the cords or muscles in the back part of the foot were contracted, as he does not touch the heel calks to the ground at all. E. SMITH.

Euclid, Ala.

The knuckling is due to contraction of the tendons at the back of the leg (perforatus and perforans) and nothing short of an operation will effect a cure. This consists in severing the tendon through a very small orifice by means of suitable instruments and special after treatment. The operation can only be performed by a qualified and experienced veterinarian. If there is no one in your district who can perform the operation then we would advise you to clip hair from back part of leg and blister twice a month with cerate of cantharides. Shorten toe and shoe with high heel calkins, but no toe calkins. The shoe referred to is all right at first, or on very young foals, but will prove useless at this stage.

Chronic Indigestion. — Subscriber, Selden, N. Y.—You have furnished a capital description of a case of chronic indigestion and worms, the treatment for which has often been given in this department of the P. F. Have him clipped at once and blanket in stable, which should be kept clean and well ventilated—not warm by lack of fresh air. See that he is given plenty of exercise, and allow him all the pure water he wants before meals. He is possibly very long and "washy" in the coupling, and in that case will be difficult to cure of scouring. The cough would also indicate that he has heaves, which would not be strange under the circumstances. As he becomes sick when given turpentine, which is indicated for worms, give him, twice daily, half an ounce of Fowler's solution of arsenic, and in the feed, night and morning, mix one drachm each of dried sulphate of iron and two drachms of powdered wood charcoal with half a drachm of powdered nux vomica. In one week drop out the dried sulphate of iron but repeat it for a week after a lapse of ten days. This is to kill the second brood of worms. Once a week give him a large, warm, salted bran mash, in which mix half to one pint of raw linseed oil. This treatment, if carefully and patiently carried out, should greatly benefit him, but he is a bad case and has been so long affected that we are doubtful as to results.

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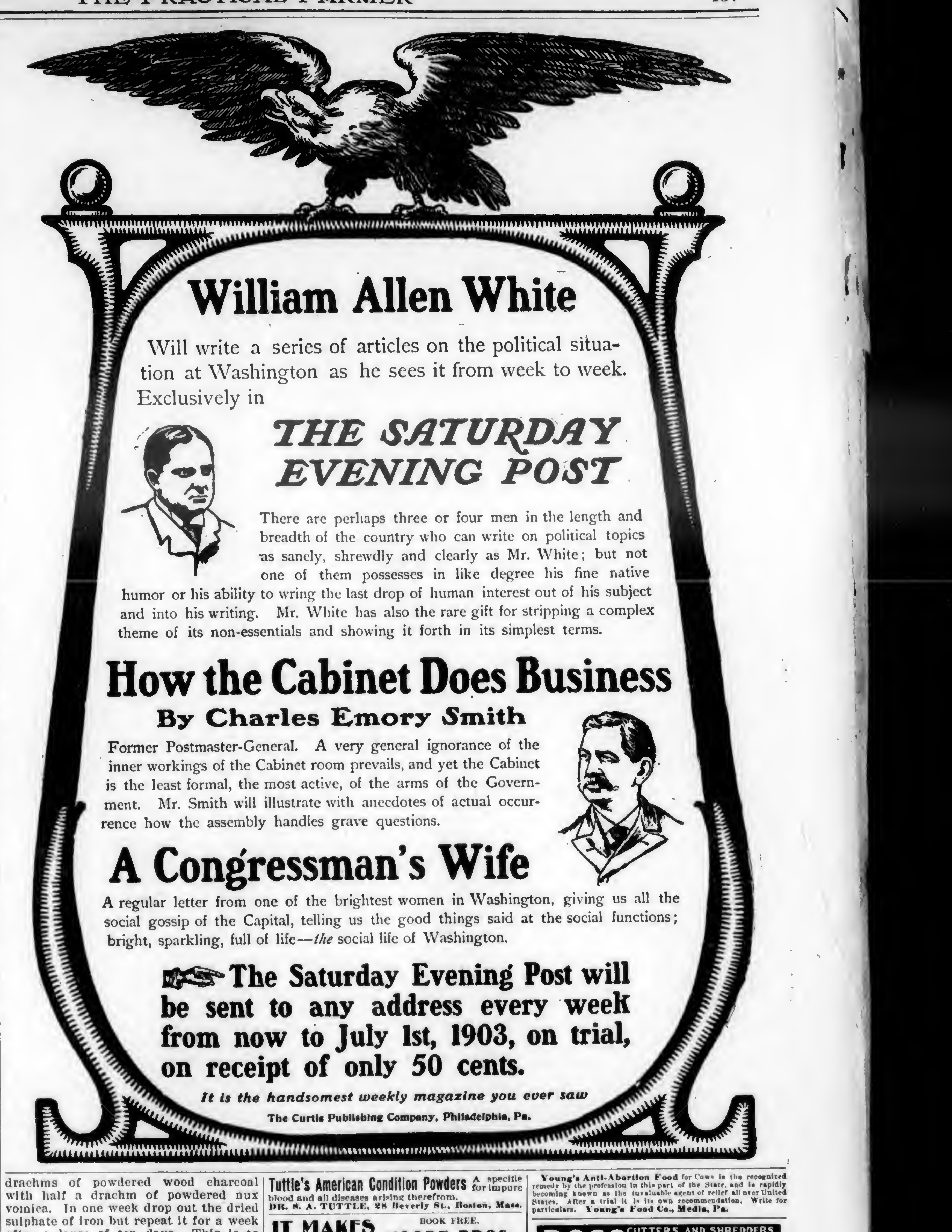

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Talks on Timely Topics.

Fruits and Vegetables for Health.—The Health Hints given by Brother Terry are well worth remembering and living up to. I have referred to them in these columns before. If we live a natural life—a life such as nature intended for us, a life without excesses, without artificiality—we will enjoy a natural life—a life without sickness. When we surround ourselves with unnatural conditions, breathe vitiated air, eat unnatural or unnaturally prepared foods, drink strong coffees, teas, alcoholic beverages, smoke and chew tobacco, habitually overload our stomachs, and then, worst of all, try to counteract all these errors by turning all sorts of patent medicines of unknown composition down our throats, we surely will have to suffer for such mismanagement in our internal bodily affairs. Occasionally we come across an example of wonderful vitality and power of resistance to the injurious influences of unfavorable surroundings and dietetic errors. Last fall (as was reported in a daily paper) a man 95 years old not far from here was found in his potato field digging potatoes, and when asked about the methods of living which had preserved him so well, said: "I eat plenty of pork and potatoes, drink plenty of strong coffee and beer, have smoked tobacco all my life, and take a bath once a month." Here is one of the rare exceptions, and the average young person who would accept this recipe as a sure way of reaching a long life, would probably discover, before he has reached the age usually called "the prime of life," that he has made a grievous mistake. Even infectious diseases have little power over the person whose system is fortified with the antitoxins furnished by the perfect health which is the result of living a natural life.

But even for the errors of life, if not too grave and long-continued, nature has provided its own remedies—remedies more powerful than any found in our apothecary shops. Just at the present time the alleged "news" that lemon juice kills typhoid fever germs, is being heralded all over in the daily and weekly papers. To those among our friends who have read Part I of "The Garden Book" (written by me in 1900-01, and published as Vol. 3, No. 2, of the Practical Farmer's Library, by The Farmer Co., of Philadelphia), this is no new discovery. In fact the news item of the daily press does not make it appear that the medical fraternity as yet is fully cognizant of the full significance of the allegedly "newly discovered" fact. The following appears on page 24 of the "Garden Book:" "Fruits and vegetables, in many cases, are true life preservers and life savers. I quote the following from what I believe to be good authority: 'It is not popularly known that fruit acids are germicidal. The juice of lemon and lime is as deadly to cholera germs as corrosive sublimate, or sulphur fumes, or formaldehyde, or any other disinfectant. It is so powerful a germicide that if the juice of one lemon or lime be squeezed into a glass of water that is left standing ten or fifteen minutes, the water will be disinfected; it makes little difference where the water has been obtained, or whether it has been boiled or filtered. This is a fact worth knowing, for anyone may find himself under circumstances in which it is impossible to get water of known wholesomeness, or boiled or filtered water. In such a case, the juice of a lemon or lime will purify the water perfectly.'

"For years I have acted on the supposition that fruit acids kill disease germs. I am convinced that typhoid fever germs lurk in many wells, and for that reason have become afraid of well water as a beverage, pure as it may appear, and good as it may be to the taste, unless either boiled or medicated. The medication has usually consisted of the addition of plenty of lemon juice. Lemon juice is likewise known to destroy the germs of diphtheria, and undoubtedly of other infectious diseases. Probably other fruit and vegetable acids perform a like service to suffering humanity. Among such powerful germicides we have the acids of the currant, the strawberry, the cherry, apple and plum, of rhubarb, etc."

In the above list of germicidal acids I have forgotten to mention one of the most powerful and useful, that of the pineapple. Most of our readers probably know that pineapple juice is frequently mentioned, not only as a powerful aid to digestion, almost equal in its effect to pepsin, but also as a direct means of clearing the throat of diphtheretic and similar affections. I might say much more of the wonderful hygienic influence of fruits and vegetables, much of which I could also quote from "The Garden Book." But the half has not yet been told. The "Man with the Garden," in short, is better situated, if he will use his privileges wisely, than the man who lives next to a physician.

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Current Comments.

Onion Queries.—Do you think it desirable to grow onions from seed after a crop of cabbage, on account of the maggot? Is it a good plan to use the weeder freely on the onions (right over the row) when they are just coming through and until they are a few inches high, to kill the small weeds?
Monroeville, N. J. JOS. P. WOOLMAN.

To both queries I think I would unquestionably reply in the affirmative. It may not be definitely settled whether the cabbage maggot will occasionally feed on onions or whether the onion maggot is attracted to radishes, cauliflowers and similar plants. But I have these facts to deal with, first, that maggots have frequently destroyed a large portion of my cabbage and cauliflower plants, and that whole sowings of radishes were worthless on account of maggots, while my onions seldom suffered serious injury, although in some years I notice a few maggot-eaten onions in the patch. I still believe that planting radishes near, or in the onion field, to attract the fly which lays the eggs from which these maggots hatch, is a reasonably sure preventive of injury to the onions. The weeder has frequently been used right over the onion rows, and satisfactory results are reported. I have often used it over rows of beets, beans, peas, etc., but not over onions. I think we are often too timid for the operation, which seems rough, but might often save us a good deal of disagreeable work without doing even a fraction of the damage that we would expect from it. In order to be safe for the onion patch, the weeder should be used only in soil that is entirely free from stones, rubbish or lumps, and if that is the condition of the soil, the use of a good weeder will seldom prove otherwise than highly satisfactory.

Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

When to Plant Magnolias.

A friend, owning an acre or two of ground, and who is about to form a pleasure ground of it, asked me what magnolias he should plant in it, and when he should plant them. His property is in Montgomery Co., Pa. In the first place, my advice to him was not to think of planting any of the magnolia family until spring, for whatever the result elsewhere, it was time and money thrown away to plant these in the fall in the North. They will not live, neither will its close relation, the tulip poplar. Spring, and not too early in spring, suits them best. Now, as to sorts, if a small tree be wanted, plant Tripetala. Its flowers are white, coming in May, but never mind the flowers so much, but wait for the beautiful carmine seed pods, which are ripe and display their best color in August and September. If but a shrub or small shrub-like tree be wanted, plant the Soulangiana. This has lovely, large flowers, pink in the bud, showing inside white petals when expanded. This flowers when but two to three feet high, the flowers coming before the leaves, and it can be kept down in bush shape or permitted to grow up as a small tree. Its counterpart in every way, excepting that its flowers are white, is one called Conspicua. Should a quite damp place be available, set out the sweet scented one, glanca. It delights in such a situation; and its sweet, white flowers fill the air with perfume for a great distance. From Philadelphia southward the magnificent evergreen one, grandiflora, may be safely planted. Its foliage is almost the equal of that of the rubber plant, to say nothing of its immense white flowers.

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Horticultural Queries.

Cherry Buds on Apricots. — I would like to know if cherry buds will grow budded on apricot stocks. If so, when is the best time to bud them? Is there anything in budding in the sign of the moon?
Halfway, Ore. J. E. UNDERWOOD.

Though the cherry, plum, peach, apple, pear and other fruits all belong to the same natural order of plants, and buds from one will take on another, it has rarely been found to be of any value in a commercial way. Plum and peach take to each other fairly, so do the pear and quince. I have never tried apricots and cherries, but should incline to think they might take, but that the growth would be unsatisfactory. The time to bud is just as the growth is nearly made in summer. In Pennsylvania this would be in August. If left too late, the bark cannot be lifted to admit the bud. Nurserymen, who bud stocks by the hundred thousand, do it whenever the stocks are ready, no matter what the sign of the moon may be.

Bitter Plums. — Please inform me the cause and remedy for bitter plums.
E. Setauket, L. I., N. Y. R. MOSER.

If you would send me a few specimens of the plums next season I may be able to find out what kind it is. Many plums have a slight bitter taste next to the skin, but I know of none that could be called bitter in the way your description leads me to understand it. The round, tomato shape fits some of the Japanese sorts, but there is no more of a bitter taste to them than many of the common sorts have. Perhaps the season made the taste unusually bitter, and it may not occur again.

Raising Seedling Apples.—I want to try raising some apple trees from seed. I now have my seed in the cellar. Please give a description of how and when to plant, and how and when to graft and material for grafting wax. Would seeds saved from winter apples now in cellar be all right?
Olney, Ill. J. LINDER.

If your cellar is slightly damp the seed will be in good condition to sow in early spring. Should it not be damp you had better dampen the seeds slightly. They need to be adding a little moisture all winter, to be in the best condition. Sow them as early in spring as possible, in rows, covered as you would any other seeds. Seeds from apples now in the cellar would be of the very best for the purpose, being moist and plump. The one-year-old seedlings are dug up in the fall, stored in cellar, and grafted at the collar during winter, then set away in moist earth until spring, when they are planted out. An old style wax, to be heated before being used, is made of 1 pound rosin, ½ pound beeswax and 2 pounds tallow, but material already prepared, with instructions how to use it, can be had from nearly all agricultural firms.

Various Queries.—Where was the Tennessee Prolific strawberry first found and by whom was it introduced? was there a paper in N. Y. called the Fruit Recorder, and was A. M. Purdy the editor, and did he have anything to do with the introduction of the Tennessee Prolific strawberry? I have a rocky hillside; can I set peach, apple and plum trees on it and mulch around the trees for several feet to keep down weeds and hold moisture and not cultivate? Will mulch make the roots run too near the surface? Where a person has plenty of straw could grapes be grown on rough land without working, using mulch instead? What do Stark Bros. mean when they catalogue a variety of fruit and say this is one of their "Trade Mark?" Is this a patent, or what?
Cowan, Tenn. C. S. LOONEY.

I regret that I cannot give you any information as to the origin of the Tennessee Prolific strawberry. A. M. Purdy was for many years in charge of the Fruit Recorder, Palmyra, N. Y., but I cannot say whether or not he introduced this strawberry. The straw mulch around your fruit trees will answer very well. Mulch as far out from the trunk as the branches extend, as the roots run out to about the same distance. If you cut the weeds on the other space it will answer. I think grapes would do well under a similar system. It is probable that Stark Bros. have all the stock of the fruit they offer with a "trade mark" attached. It guarantees the purchaser that he is getting the true kind. If you buy a tree and propagate from it, no one could prevent you selling the trees.

◆

Horticultural Notes.

The Pearl Bush, Exochorda Grandiflora, bears lovely sprays of pearl-white flowers in May. When not in leaf, it does not strike one as being the lovely bush it is when in flower.

Nurseries.—One of the features of the times is the breaking up into departments of many of the large nurseries. The wholesale and retail are now quite distinct with many large firms.

Milk Weeds. — Among milk weeds, as asclepias are called, many of our native sorts are superior to any foreign kind. The three species, incarnata, rubra and tuberosa, especially are fine. The latter has orange-yellow flowers of great beauty.

Setting Out Trees. — Europeans have been setting out forest trees for years, recognizing the increasing demand for them every year. Our forest trees are in great demand. From the Pacific coast the Douglas and the Menzies spruce are the principal trees sought for. From the Eastern States, oaks, hickories, ash and birch. The demand is for seeds, mostly.

Columbines, aquilegias, as dealers call them, are particularly useful hardy plants. The native one with scarlet flowers has been hybridized with those of the West, the yellow and the blue, and some beautiful varieties have resulted. They are readily raised from seed or root division.

Puddling. — The puddling of roots of trees in clay or mud before shipping them is becoming general with nurserymen. This is something the Japanese have practiced for years. In some cases the whole tree, root and branch, is dipped in clay, and then packed in quite dry material, and shipped long distances.

THE VALUE OF CHARCOAL.

Few People Know How Useful it is in Preserving Health and Beauty.

Nearly everybody knows that charcoal is the safest and most efficient disinfectant and purifier in nature, but few realize its value when taken into the human system for the same cleansing purpose.

Charcoal is a remedy that the more you take of it the better; it is not a drug at all, but simply absorbs the gases and impurities always present in the stomach and intestines and carries them out of the system.

Charcoal sweetens the breath after smoking, drinking or after eating onions and other odorous vegetables.

Charcoal effectually clears and improves the complexion, it whitens the teeth and further acts as a natural and eminently safe cathartic.

It absorbs the injurious gases which collect in the stomach and bowels; it disinfects the mouth and throat from the poison of catarrh.

All druggists sell charcoal in one form or another, but probably the best charcoal and the most for the money is in Stuart's Absorbent Lozenges; they are composed of the finest powdered Willow charcoal, and other harmless antiseptics in tablet form or rather in the form of large, pleasant tasting lozenges, the charcoal being mixed with honey.

The daily use of these lozenges will soon tell in a much improved condition of the general health, better complexion, sweeter breath and purer blood, and the beauty of it is, that no possible harm can result from their continued use, but on the contrary, great benefit.

A Buffalo physician in speaking of the benefits of charcoal, says: "I advise Stuart's Absorbent Lozenges to all patients suffering from gas in stomach and bowels, and to clear the complexion and purify the breath, mouth and throat; I also believe the liver is greatly benefited by the daily use of them; they cost but twenty-five cents a box at drug stores, and although in some sense a patent preparation, yet I believe I get more and better charcoal in Stuart's Absorbent Lozenges than in any of the ordinary charcoal tablets."

Farm Wagon only $21.95.
In order to introduce their Low Metal Wheels with Wide Tires, the Empire Manufacturing Company, Quincy, Ill., have placed upon the market a Farmer's Handy Wagon, that is only 25 inches high, fitted with 24 and 30 inch wheels with 4-inch tire, and sold for only $21.95.

This wagon is made of the best material throughout, and really costs but a trifle more than a set of new wheels and fully guaranteed for one year. Catalogue giving a full description will be mailed upon application by the Empire Manufacturing Co., Quincy, Ill., who also will furnish metal wheels at low prices made any size and width of tire to fit any axle.

SHOEMAKER'S BOOK ON POULTRY and Family Almanac for 1903. Over 200 large pages of best book paper, with fine colored plates true to life. Tells how to raise chickens profitably, their care, diseases and remedies. Diagrams with full descriptions of Poultry houses. All about Incubators, Brooders, Thoroughbred Fowls, with lowest prices. You can't afford to be without it. Only 15c. C. C. SHOEMAKER, Box 545, Freeport, Ill.

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Dollar size Breeding Powder, by mail $1.15; $2.50 size prepaid for $2.75.
Hood Farm Flexible Injection Tube, for administering the Powder, 75 cents; by mail, 90 cents. Address
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Mention this paper in ordering.

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Strawberry Plants. We have them true to name all grown on new ground, consequently are healthy and strong. Send for cir. Address Fruitful Plant Farms, John Lightfoot, Prop., Sherman Heights, Tenn.

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are that kind. They are easiest and fastest in the field, they make the finest spray and they are the only sprayers with automatic agitators and strainer cleaning brushes. They do not burn and spoil the foliage by applying too much poison in spots, and every part gets its due proportion. To be sure of being right send for our book of instructions on spraying, formulae, etc. Mailed free for the asking.
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For over two generations the Iron Age implements have been helping farmers to do better. Every year in that time we have been making these labor savers better than before. To-day they are successful beyond question; durable beyond comparison; economical beyond doubt.
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POULTRY.

This department is under the editorial charge of A. F. Hunter. All letters, inquiries and requests should be addressed to him at the Practical Farmer office, P. O. Box 1317, Philadelphia.

Food Questions.—E. W. Elliott, Durham, N. Y., writes: "Will you please answer the following questions in the P. F.? Will it pay to cut clover rowen to mix with soft feed when we have plenty of cabbage, beets, etc., for the fowls, with sheep and cows to eat the hay? When we have plenty of milk and some meat scraps, etc., will it pay to buy Bowker's Animal Meal at $2.25 per 100 pounds, for either laying fowls or young chicks?" No, to both questions. If you have plenty of cabbage, beets, etc., and the fowls have all they will eat of them they have sufficient green food. The only question would be "roughage" and some food-elements supplied by the clover rowen. The roughage question is important and a factor of value in the clover rowen is that it extends the ration, prevents its being too compact. Probably you could rake up (with a fine rake) sufficient clover heads and leaves from the barn floor where the clover is handled in feeding the cows and sheep, for roughage. With milk, meat scraps, etc., in plenty the fowls need no other animal food. Milk is of itself a very perfect food, and is a particularly valuable food for chicks, to promote growth; sweet milk is good and sour milk is still better.

Stiff Legs.—M. Greenwell, Curdsville, Ky., writes: "What can I do for hens that take a disease which I call stiff legs? They cannot walk after they take it and I haven't had any to get over it. When they first take it they lie around for several days, then some die and others get up and hop about. I feed the fowls, in winter, a mixture of bran and skimmilk, and evenings grain; don't feed much of anything in summer, except to young chicks. Please give me a remedy." The trouble is doubtless caused by insufficient food and an ill-balanced food (what little they do get). It isn't a disease for which a remedy can be prescribed. When the hens have become weak and debilitated through want of nourishing food the muscles of the legs are the first to collapse, that is the first manifestation of approaching dissolution, the first evidence that they are starving to death. There is very little nourishment in bran, and the skimming of the milk takes all the most nourishing properties out of it, hence that part of your food is a delusion to them because it doesn't nourish them, doesn't satisfy their hunger. You don't tell us what the grain is, but, whatever it is, it cannot make up the deficiencies in the other part. Why do you keep poultry? It certainly cannot be of much use to you, treated in this manner. Presumably some survive the terrors of the winter, and when spring comes and they can get worms, insects, etc., they lay a few eggs and you hatch a few chickens from the eggs. Contrast that result with the liberal December egg-yield and profit recently told of in this column. That profit was gotten by "feeding the fowls for eggs," as was told in the article "Poultry Feeding," in December 20th P. F. Contrast that balanced ration" with your "starvation ration" and ask yourself if it wouldn't really pay, in dollars and cents, to feed better and get the better results that would come with it.

Shells.—Number of Roosters.—W. J. Davis, Shiloh, N. J., writes: "1. Will you please tell us if oyster and clam shells are as good for egg production as ground bone meal? 2. How many roosters ought a person keep with 100 hens?" 1. No; they are a decidedly different thing and serve a different purpose. Oyster and clam shells supply the hens with egg-shell material; so will bone meal to a certain extent, but bone contains a portion of animal matter as well as lime. Cut fresh bone is highly esteemed as an animal food and is rich in animal matter, but bone meal is ground from bones that have been cooked in rendering to extract the fats (animal matter). 2. About eight, but you ought not to have 100 hens running together, and ought not to breed from them if you do. Select out a dozen of the choicest birds, put them in a pen by themselves, get an early hatched and well matured cockerel to put with them, and hatch all of your chickens from those selected birds; then you'll get something.

How Much to Feed.—R. Moser, East Setauket, L. I., N. Y., writes: "Please inform me how many quarts or pounds of feed per day to give a flock of 100 hens. I feed a mash in the morning of wheat middlings and Romaine's 'Boiled Beef and Bone;' in the middle of the day whole wheat, and at night whole corn." It is impossible to tell exactly how many quarts or pounds of food to feed. A common bucketful of mash would be about right for 100 hens, and four or five quarts of wheat at noon and corn at night; the only safe rule is to feed what they will eat up clean and quickly; if there is any food (or grain) left twenty minutes after feeding, they were overfed. Your morning mash ought to have some cooked vegetables or cut clover in it, and with a portion of wheat bran and ditto of corn meal, would be a better balanced ration. See "Poultry Feeding" in December 20th P. F. There is a "well balanced" ration, and having such a ration fowls will lay eggs.

Knows No Distinction.

Rich and Poor Alike Suffer From Catarrh in This Climate.

All observant physicians have noticed the enormous increase in catarrhal diseases in recent years, and the most liberal and enlightened have cheerfully given their approval to the new internal remedy, Stuart's Catarrh Tablets, as the most successful and by far the safest remedy for catarrh yet produced.

One well-known catarrh specialist, as soon as he had made a thorough test of this preparation, discarded inhalers, washes and sprays and now depends entirely upon Stuart's Catarrh Tablets in treating catarrh, whether in the head, throat or stomach.

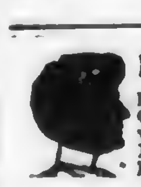
Dr. Risdell says, "In patients who had lost the sense of smell entirely and even where the hearing has begun to be affected from catarrh, I have had fine results after only a few weeks' use of Stuart's Catarrh Tablets. I can only explain their action on the theory that the cleansing and antiseptic properties of the tablets destroy the catarrhal germs wherever found because I have found the tablets equally valuable in catarrh of the throat and stomach as in nasal catarrh."

Dr Estabrook says, "Stuart's Catarrh Tablets are especially useful in nasal catarrh and catarrh of the throat, clearing the membranes of mucus and speedily overcoming the hawking, coughing and expectorating."

Any sufferer from catarrh will find Stuart's Catarrh Tablets will give immediate relief and being in tablet form and pleasant to the taste, are convenient and always ready for use as they can be carried in the pocket and used at any time as they contain no poisonous drugs, but only the cleansing, antiseptic properties of Eucalyptus bark, blood root and Hydrastin.

All druggists sell the tablets at 50 cents for complete treatment.

A famous cough prescription is Dr. Jayne's Expectorant.



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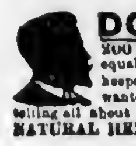

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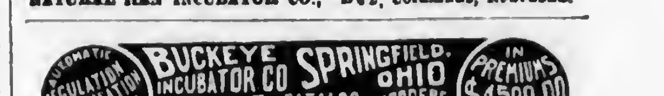

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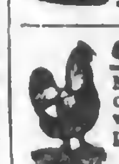

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Perfect in construction and action. Hatches every fertile egg. Write for catalog to-day.
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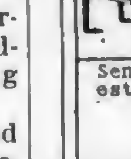

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Philadelphia, Pa.
Entered at the Philadelphia post office as second-class matter.
PROF. W. F. MASSEY, Editor.

Philadelphia, February 28, 1903

THE winter months are the harvest months for advertisers in the agricultural press. Our columns at this season of the year bear ample testimony to that fact. We commend these advertising columns to our readers. They will amply repay a careful study from week to week, as they contain the cream of the agricultural advertising. If at times they encroach on the reading matter, they afford a pleasing variety, and withal a profitable one to the wise reader who wishes to keep posted on how and where to buy to the best advantage. We would call the attention of our readers to the discrimination we exercise against the delusive class of advertising, so often seen in publications, which take no steps for the protection of their readers or themselves, and in this connection we suggest to our friends that in corresponding with our advertisers, if they will mention the P. F. they will help us and themselves. The Editor is applied to very often for information as to where certain things wanted can be bought. If every reader of the P. F. would carefully scan the advertisements they would find very frequently that what they are looking for is advertised in the paper. Then, if the Editor was to tell the correspondent in the paper some other place where the same thing could be bought, it is easy to see that this latter party would get an advertisement that cost him nothing, and the paying advertiser would not be properly treated. It is seldom proper, therefore, for the Editor to tell correspondents where to buy things through the paper, though sometimes we can make a sugegstion if a stamp is enclosed to pay postage on a letter. We are just now receiving a number of inquiries about Berkshire pigs, and we would suggest to our readers who may be breeding these, that the advertising columns of the P. F. will be a good place to put them before the public. Many of our readers, engaged in the poultry or live stock business, will find a profitable outlet for their stock through a small ad. run continuously in our advertising columns. They would get customers in all parts of the United States.

* * *

ALL through Eastern Pennsylvania and New Jersey we saw, the last of January, hundreds of shocks of corn still in the field. It looks odd that men will undertake the expense and labor of growing a crop and then let it largely waste for the lack of a little timely work in saving it in good condition. Fortunately we had plenty of barn room, and our early cut corn was cured and cribbed before there was a hard frost even, and the stover was put in the barn, where we are cutting it and mixing one part of pea vine hay with two parts of corn stover, and our horses are keeping in first rate order on this food alone. Many thousands of dollars are wasted in food left in the field all winter, to say nothing of the condition of the grain thus left. And men talk about the amount of waste in a silo, when it does not compare with the waste in these shocks covered with snow and frozen fast to the ground in January. It looked to us like very poor farming in a magnificent farm country. But then there is that poor thing called the "average farmer," in all sections, the man who makes the census averages of the States look so small. We suppose that even in the fertile valleys of Eastern Pennsylvania there are still men who do not believe in book farming nor in agricultural education. The men who read the P. F. here are hardly the ones who have corn shocks standing in the field all winter. If there are any such, this is meant for them, and we hope they will improve.

* * *

Fertilizers for Corn.

Hardly a mail arrives that does not contain letters at this season of the year asking for a fertilizer formula for corn. These letters are mainly from our readers in the Southern States. With the very best intentions for helping the farmer, the Stations have spent a great deal of time and labor in the study of the manurial needs of soils and crops. The farmers in the South have understood from this that for every crop planted they must have a special formula for mixing a concentrated fertilizer. We often are obliged to suggest certain formulas which we feel are little short of agricultural quackery, because we cannot know just what each man's soil needs and no one but the man who cultivates it can find out. There is no patent medicine cure-all for all soils, and all crops, and the special fertilizers advertised for potatoes, or corn or other special crops, will usually answer just as well for one as another crop whether recommended for it or not. The P. F. has always tried to show to the cultivators of the soil that good farming and a proper rotation of crops with legumes are of far more importance that what fertilizer formula to use. The Editor has, as he has heretofore boasted, the finest piece of wheat between North Carolina and New York, so far as his observation from a car window goes. Nearly every passer-by wants to know what kind and how much commercial fertilizer was used on this wheat, and when we tell them that none at all was used, they sadly shake their heads and seem loath to believe the statement. The wheat is strongest where there was hairy vetch and cow peas last summer. On the remainder there was a light coat of barnyard manure applied in the spring of 1901, and corn has been grown on it since. One small part at the far end of the field was manured lightly with barnyard manure and planted in cow peas in rows. This part does not seem to be much better than the rest, but the whole field is so good that it will serve as a text for more than one talk.

What we are trying to get at is, as we have often said, that there is no profit in applying a complete commercial fertilizer to the corn crop, and if we practice a fairly good short rotation we can rapidly improve our lands without buying fertilizers for every crop, and never buying any nitrogen at all. But this cannot be done with the usual condition of affairs on a Southern cotton farm, where the only animals are the mules that work the crop. Some day the Southern farmer will learn the fact that there is no fertilizer equal to the cow, and the corn field is where the cow's fertilizer will do the most good. When the farmer gets to the point where he can raise forage enough and feed cattle enough to make manure enough to go over the land he puts in corn, he can follow that corn with wheat and have good wheat without any special fertilizer for the wheat, and then by applying a good dose of acid phosphate or phosphate and potash to the stubble that is to be sown in peas, he can still further enlarge his capacity for feeding stock and making manure. No machine for mixing fertilizers ever approached the cow fed heavily on rich food, and until our Southern farmers get out of the slavish dependence on someone's brand of fertilizer for every crop they plant, little advance will be made in the permanent improvement of the land. Farming without cattle and plenty of feed for them is poor farming no matter whether the money crop is wheat, cotton, tobacco or anything else.

* * *

What We Saw.

The Editor has recently traveled all the way from North Carolina to Central Pennsylvania, and from there to New York. And we feel disposed to brag some, for on the whole trip we saw no wheat anywhere that could compare with our own at home. In fact, what impressed us most during the whole trip, which also included a trip to the eastern side of the Chesapeake in Maryland, was the great area of bare land everywhere. Stalk fields standing bare and leaching without a cover crop waiting to go in oats, we suppose. Then in some of the finest farming sections of Pennsylvania we saw field after field where the farmers were hauling out manure and dropping it in little piles all over the field. Then when that field comes in grain there will be lodged places where the manure lay. If the piles were made from dump carts we could better understand it, but they are forked out of wagons. Now it seems to us that the same labor that put the manure from the wagons in piles, could have scattered it at once. But this has been the practice in those sections ever since we could remember, and most of the farmers do it because it has been the practice and they have not taken the trouble to think anything about the matter or to devise a better way. Most of our farming has been done on steep hills and we found the manure spreader of little value there, but on the majority of the farms we saw the land was not too steep for the spreader, and the farms were small, so that the spreader could be used economically. In a country where there is so much good farming it is odd to note so many practicing old methods. The practice of having winter cover crops progresses very slowly, and few farmers seem to realize how much they are losing from bare land in winter. The naturally fertile character of the land in Southeastern Pennsylvania has probably had much to do with this, for on the thinner soils of New Jersey, where good farming is essential to the making of crops, there is much more real activity in improved agriculture than in the fine lands of Pennsylvania. All along the road in Pennsylvania and New Jersey there are still to be seen evidences of the great ice storm of February, 1902. We rode in that storm from Philadelphia to Jersey City, and saw the destruction at its height, and in many places the trees are just beginning to make new growth, and it will be years before they attain their former size and beauty. We talked to the Pennsylvania farmers composing the State Board of Agriculture, at Harrisburg, on the Southern cow pea and its place in the agriculture of the Middle States, and we were pleased to hear from a number of them that they are succeeding with the cow pea and value it as a forage plant. It is probable that in all the tier of counties south of the 40th parallel and east of the mountains, the Southern pea can be grown with success, and there may be localities of light soil elsewhere where it will succeed.

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HENRY HARRIS, Business Manager.

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Have You Renewed.

THIS is the last number of the P. F. which our February subscribers will receive, if their subscriptions are not renewed. If you wish to receive the paper without a break your renewal subscription must be sent at once. How about that Club of Six? Get five of your neighbors to join you and the six yearly subscriptions will cost only $3, and you will receive your choice of one of thirteen valuable premiums. Let us hear from every February subscriber with a Club of Six.

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The P. F.	$1	1.25
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The P. F.	$1	1.90
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The P. F.	$1	1.25
Chicago Weekly Inter-Ocean	$1	
The P. F.	$1	1.50
The Commoner.	$1	

COMMERCIAL

Philadelphia, Feb. 21, 1903.

WHEAT.—

The market ruled steady under moderate offerings, but there was little demand from any source. An order for 8,000 bushels was worked for export on private terms, but foreign limits as a general thing were under the market. The United States visible supply showed an increase of 541,000 bushels.

No. 2, red	78½	@	79
No. 2, Penna. and Del.	79½	@	80

CORN.—

Demand for export as well as for local consumption, was light, but offerings were moderate and prices ruled steady. Sales of 60,000 bushels No. 2 mixed for prompt clearance on private terms. The U. S. visible supply showed an increase of 980,000 bushels.

No. 2, mixed	52½	@	53

OATS.—

Offerings were ample, and the market was ½c. lower under a light demand. The United States visible supply showed an increase of 418,000 bushels.

No. 2, white clipped	44		

BUTTER.—

Best prints	27	@	28
Firsts, creamery	26		
Seconds, creamery	24	@	25
Ladle packed	15	@	18

CHEESE.—

Full cream, choice, small	14	@	14¼
Full cream, fair to good	13¼	@	13¾
Part skims	10	@	12

LIVE POULTRY.—

Demand promptly cleaned up the limited receipts and prices were strong and higher.

Fowls, hens, per lb.	14½	@	15
Old roosters, per lb.	10	@	10½
Spring chickens, per lb.	14	@	15
Ducks, per lb.	15	@	16
Geese, per lb.	14	@	15
Turkeys, per lb.	15	@	16

DRESSED POULTRY.—

Receipts of all descriptions were light, and the market ruled firm, with a fair demand.

Fowls, per lb.	12½	@	14½
Chickens, per lb.	14	@	17
Turkeys, per lb.	17	@	21
Ducks, per lb.	16	@	20
Geese, per lb.	11	@	13

EGGS.—

Receipts, 2,200 crates. The snowstorm influenced a decidedly stronger feeling in this market and a good business was done at an advance in prices of 1c. per dozen. Exceptional sales were reported above quotations, but the great bulk of the day's transactions was at 18c. for choice stock, at which figure the market closed firm, with offerings closely sold up.

Nearby fresh, at mark	18		
Western, choice	18		

FRESH FRUITS.—

Apples, firsts, per bbl.	1.50	@	3.00
Cranberries, Cape Cod, bbl.	11.00	@	12.00
Cranberries, Jersey, crate	3.00	@	3.50
Oranges, Fla., per box	3.50	@	4.00
Grape fruit, Fla., per box	3.50	@	6.00
Strawberries, Fla., qt.	20	@	40

VEGETABLES.—

White potatoes, Pa., per bu.	65	@	70
White potatoes, West., bu.	55	@	60
Sweet potatoes, Jer., bas.	50	@	60
Cabbage, per ton	6.00	@	8.00
Onions, per bbl.	1.35	@	1.60

BEANS AND PEAS.—

Marrows, H. P., per bu.	2.70		
Pea beans, H. P., per bu.	2.35		
Red kidneys, per bu.	3.00		
Green peas, per bu.	1.65	@	1.70
Scotch peas, per bu.	1.70	@	1.75

HAY AND STRAW.—

Timothy, choice, large bales	18.50	@	19.00
Straw, straight rye	17.50	@	18.00
Straw, tangled	13.00	@	13.50
Wheat	11.50	@	12.00
Oat	10.50	@	11.00

FEED.—

Bran, bulk, winter, per ton	21.00	@	21.50
Bran, sacked, spring	21.00	@	21.50

COTTON.—

Middling upland, cwt.	9.80		

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle about steady.

Extra steers	5⅜	@	5¾
Good steers	4¾	@	5
Medium steers	4¼	@	4½
Common steers	4	@	4¼

CALVES.—

Veal calves steady.

Extra calves	8½	@	9
Fair to good	7	@	8
Poor and common	5	@	6½
Grassers	3	@	4½

HOGS.—

Hogs firm and active.

Fat hogs, Pa., Del. & Md.	7	@	9
Fat hogs, Western	9½	@	9¾

SHEEP.—

Sheep and lambs higher.

Sheep, extra wethers	5¼	@	5½
Sheep, good	4½	@	5
Sheep, medium	3¼	@	4
Sheep, common	2½	@	3
Lambs	5	@	7

* * *

New York, Feb, 21, 1903.

WHEAT.—

The spot market is strong, but prices are still high enough to interfere with trade. Export sales reported were 10 loads, of which two were taken here.

No. 2, red	83	@	83¾
No. 1, Northern Duluth	89¾		

CORN.—

On spot demand was good and prices were stronger. Sales were made for export of 30 loads, mainly February-March, in New York.

No. 2	60		
No. 2, white and yellow	56		

OATS.—

Spot supplies were light. Business was fair.

No. 2, white	44½		
No. 2, mixed	43¾		

HAY.—

Prime, large bales, 100 lbs.	1.05		

BUTTER.—

Creamery, extra	26		
Creamery, firsts	24	@	25
Creamery, seconds	22	@	23
State dairy, tubs, fancy	23	@	24

CHEESE.—

Full cream, small, fancy	14¼	@	14½
Full cream, large	14¼		
Light skims, small, choice	12¼	@	12½
Light skims, large, choice	11½	@	12

LIVE POULTRY.—

Ducks, per pair	80	@	1.00
Geese, per pair	1.75	@	1.87
Fowls, heavyweights, per lb.	15		
Turkeys, per lb.	14	@	15

DRESSED POULTRY.—

Spring turkeys, per lb.	17	@	19
Spring chickens, avr'g. lb.	22	@	25
Spring geese, per lb.	11	@	12½
Fowls, good to prime, per lb.	11	@	14
Squabs, poor to prime, doz.	2.00	@	3.50

EGGS.—

State and nearby	20		
Western	19		

APPLES.—

Spitzenberg, fancy, per bbl.	3.00	@	4.00
Ben Davis, fancy, per bbl.	2.50	@	3.00
Baldwin, fancy, per bbl.	2.00	@	2.50
Greenings, fancy, per bbl.	2.00	@	2.75

GREEN FRUITS.—

Cranberries, Cape Cod, bbl.	10.00	@	12.00
N. Y., choice, per crate	2.50	@	3.00
Strawberries, Fla., per quart	15	@	40
Oranges, Cal., budded, boxes	1.50	@	2.00
Oranges, Cal., navels, boxes	2.00	@	3.00
Oranges, Fla., brights, boxes	4.50		
Oranges, Fla., russets, boxes	2.50	@	3.50
Tangerines, Fla., straps	3.50	@	4.50
Tangerines, Cal., straps	1.25	@	3.00
Grapefruit, Fla., per box	4.00	@	6.00
Grapefruit, Cal., per box	2.00	@	3.50

VEGETABLES.—

Beets, N. O., per bbl.	2.00	@	2.50
Cabbage, Danish, per bbl.	60	@	70
Cabbage, red, per bbl.	90	@	1.00
Cauliflower, Cal., per crate	1.50	@	2.00
Celery, Fla., per case	1.50	@	2.25
Celery, Cal., per crate	3.75	@	4.50
Eggplants, Fla., per crate	1.00	@	2.50
Lettuce, So., ½-bbl. basket:			
Fancy	3.00	@	3.50
Fair to good	2.00	@	2.75
Lettuce, New Orleans, bbl.	3.00	@	5.00
Lettuce, Romaine, per bbl.	3.00	@	4.00
Peas, Fla., 1-3-bbl. basket	2.50	@	4.00
Peas, Cal., boxes	2.00	@	2.50
Radishes, per 100	2.50	@	4.00
Spinach, per bbl.	1.00	@	1.25
String beans, Fla., per crate	2.00	@	3.00
Squash, Hubbard, per bbl.	1.25	@	1.50
Turnips, Russia, per bbl.	75	@	85
Tomatoes, Florida, carrier	1.50	@	3.25
Onions, yellow, per bbl.	1.50	@	1.75
Onions, white, per bbl.	3.00	@	5.00
Onions, red, per bbl.	1.25	@	1.50

POTATOES.—

Maine, per sack	2.00	@	2.25
Long Island, bulk, per bbl.	2.00	@	2.25
Jer. and up-river, per bbl.	1.75	@	2.00
State & West. bulk, 180-lbs.	1.75	@	2.00
Sweet potatoes, Jer., per bbl.	3.00	@	3.75
Sweet potatoes, per basket.	1.00	@	1.37

* * *

Double the value of your corn crop. How? By using the McCormick corn binder and the McCormick husker and shredder.

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Prof. W. F. Massey
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"I top dressed an old strawberry bed in its fifth year of bearing with 300 lbs.
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per acre. I had intended ploughing it up the previous Summer as it was in an exhausted condition and foul with white clover and sorrel.
The effect was amazing, for this bed of an acre and a quarter, from which I expected almost nothing, gave **seven thousand quarts of berries.**"
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Our Bulletins are *free* to farmers and we believe them to be invaluable. Your address on a Post Card will bring them to you.
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"SAVE-THE-HORSE"
Trade Mark.
SPAVIN CURE

No man in Northern New Jersey or horseman in New York City and Long Island, will doubt this man's statement.

NEWARK, N. J. Jan. 27, 1903.
Gentlemen—I used one bottle of "Save-the-Horse" and completly removed a thoroughpin. Horse was not lame, but it was a bad eyesore. No blemish or sign of the growth remains. GEORGE STENGEL.

From a Well Known Trainer.
Terrace Farm, TITUSVILLE, Pa.
J. C. McKinney, Proprietor.
I used "Save-the-Horse" all the past season. First used it on a bad splint close up to the knee; horse very lame after getting fast work. Could see decided improvement after few days' use. In a week's time all lameness disappeared. Used it with equal success on a bowed tendon. At present am treating a horse that bowed a tendon three years ago; was a bad case; was fired and blistered, but still went lame; have used a bottle, and am still using "Save-the-Horse." The enlargement has almost gone down one-half, horse going sound, and firmly believe will race again. A friend of mine had a horse that bowed a tendon last spring. By the use of your great remedy kept him racing all fall; gave him a record better than 2.05. Tendon is straight and sound as it ever was. Think it the greatest remedy on earth for a bad leg of any description. L. D. SHAFER, Trainer for Terrace Farm.

Horse can be worked with either shin or angle boots, as no harm can possibly come by either destruction of hair or scalding of the limb. "Save-the-Horse" can be applied in all conditions and extremes of weather—hot or cold.

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Troy Chemical Co., Troy, N. Y.

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Prize Offer.

One dollar each for the best four articles on either poultry raising, fruit raising, market gardening or spring care of horses, that reaches our desk before March 14, 1903. In treating of the first subject, give experience in both natural and artificial incubation. We want facts and figures. The second subject refers to small fruit. Under the third heading give us hints for hotbeds and the like; also figures that show the actual profit of market gardening. The fourth subject is one of vital importance. Change from winter fare, winter quarters and stand-still experience to the rush and weariness of the spring work is a crisis in the life of every farm animal. Give us intelligent notes along this line. Let no article, on any subject, exceed five hundred words. Let all enter this little competition, not for the small prizes, but for the good we may do.

◆

A Retrospect.

CLEMENTINE P. BARBER.

As I sit alone in my quiet home,
It seems but yesterday
That the walls re-echoed to childish songs
And the sound of laughter gay.

The years flew by; the eldest went
To fight the battle of life
In a far off city's crowded streets,
Where all is noise and strife.

The second had a face of sunshine
And body straight and tall;
But when the bugle sounded
He went at his country's call.

There was one, a little daughter,
With ways and voice so sweet,
Who gladdened home for many a year;
But where, now, are her dancing feet?

The wedding bells rang at the little church
On a glorious October day;
And now she's queen in a Western home,
While I'm alone in the twilight gray.

There was another, the household pet,
In the days of long ago,
With lustrous eyes and bird-like voice,
And oh, we loved him so!

He went to join the white robed choir,
In the land that is free from sin.
We could almost hear the glad refrain
As the angels welcomed him in.

There were hearts that ached in the lonely home,
But now, though long years intervene,
He nearer seems than all the rest,
With only the pearly gates between.

As I sit and think, my faith is strong;
If my summons should come tonight,
I should find him there, by the Saviour's side,
With his eyes of lustrous light.

Kent, O.

◆

Editorial Chat.

Part II.

"'Now, Mrs. President, where shall we begin?'

It was John Mason who asked the question at breakfast. Now that he had 'put his hand to the plow,' as he expressed it, he did not mean to lose time.

"'Well,' said his wife, reflectively, 'I have been awake the most of the night studying about it. It seems too good to be true that you and the boys are really going in with Helen and I to make the farm beautiful as well as useful. It is such a mystery that more farm homes are not made lovely and inviting. But this is not to the point. Suppose,—and she looked hesitatingly at her husband—'you and the boys put in your spare time at present tidying up about the barn and farmyard.'

"'Certainly,' said her husband with mock enthusiasm. 'I will have the whole affair painted sky blue and decorated with pink bunting before a week. I will hang chromos in the barn, and, if you and Helen will lend a hand, will furnish the pig sty with sofa pillows and every cow barn shall have a bay—' but Helen's arms about his throat choked the rest of the sentence into oblivion. Mrs. Mason laughed and assured him that she believed even a pig enjoyed beautiful surroundings. Space forbids us following this happy family through the coming weeks and months, but Hazelwood of the next August looked little like the farm home of one year before. Nor can we note all the changes. Suffice it to say that once John Mason became imbued with his wife's spirit and distaste for the untidy and inartistic, he vied with her in the work of improvement. The barn doors were re-hung and the windows supplied with whole panes—not that things were worse here than on the average farm—and a fresh coat of paint applied. The pig pens were rebuilt in the rear of the barn and a wire trellis erected on two sides, which now, in August, was thickly covered with green vines. If there were no sofa pillows there was plenty of clean straw and the site was thoroughly drained. The cow barns were remodeled, decent windows put in and a coat of paint applied. Along the side of these, houseward, another vine trellis presented its green barrier. Walks were laid out, pretty new hen houses built and poultry wire supplied instead of 'cobbled up' fences. The lawn in front of the house was no longer decorated with a calf or two tied to stakes, in the shade. Instead, a fence was run across one end of the cow pasture and a 'real arbor'—as the children called it, erected to shelter the young animals. Inside of this was a large trough continually kept full of cold water piped from the big tank at the windmill. The lawn was laid out in good shape, at least it suited them, and by the time mentioned looked very lovely. Climbing roses were given the space at the southeast corner of the front porch and a cinnamon vine the opposite corner. A border of pansies and smilax ran around the porch and a big pot of geranium occupied each square top to the posts that headed the three steps down off the porch. There were flower beds and borders in both back and front yards and a row of young shade trees set east of the house. 'The whole outlay in money has not exceeded $150,' said John Mason to a neighbor who stood one night viewing the effect.

"'It don't seem possible,' said the other, 'but had it cost three or four times as much I should still be determined to go and do likewise. I never realized how shabby my place looks till since you have fixed things up so, nor thought a farm could be anything but a— well but a farm.'

"But it was not till still another neighbor began to make casual inquiries that it occurred to John Mason to propose to enlarge their Farm Improvement Society and admit al who wished to join. It was a happy thought, but a thought that is slowly spinning out like a thread of gold all through our fair land, a thought that in time will bear the fruit of not only a more beautiful rural life, but of a more beautiful America."

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In the Kitchen.

Aunt Emma, Leesburg, Ind., writes: When our Editress advises us to can fruit in an air-tight room, I feel it a duty to rise and speak out in "meetin," before some sister faints over the canning. Just think of it, an air-tight room on a hot summer day! Let me tell the sisters how I manage. After I use the fruit from previous canning, the jars are washed, scalded, dried and kept in a dry place, the lids by themselves. I prefer jars with glass lids. If Mason jars are used be careful about the lids, for if one uses a knife to loosen the lid it will eventually spoil it. Better get new lids and rubbers each year, than run the risk of losing the fruit. When ready to can, have the jars scalded, put in the fruit, and have small, circular pieces of muslin to place on top of fruit. If there should be a little mould it will adhere to the muslin and can be lifted off and fruit will not taste of it. Have the lids quite hot and screw down as tightly as you can. The hot fruit below and the hot lid above, softens the rubber a little, and when it cools it will be found cemented to the jar, and the lid to the rubber. Do not turn the lids when cool for it breaks the rubber loose. Never turn the jars upside down. Have canned fruit this way for twenty-five years, and do not think that I have lost one-half dozen jars in all that time. And I have all the doors and windows open, too. Well, while you are all knitting dishrags, I'll just sit down and read.

[It was not the Editress who advised the air-tight room; she always gets into a "breeze" if she can. But your hints are excellent. Seems as if you might knit and read at the same time.—Ed.]

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Happiness in the Home.

J. W. H.

I wish to say a few words on a subject that is of vital interest to every home. It is taken for granted that the principal object of marriage is to increase the sum total of happiness of the contracting parties. Now, the question is, "What line of conduct, what manner of living, is best calculated to promote and secure the end sought?" The writer is presumptuous enough to think that, from experience and observation, he is in a position to outline an approximately correct way. A large percentage of marital unhappiness is caused by the neglect, carelessness and indifference of the husband. In a few months—possibly years—a great many husbands cease to give or show the many little attentions that he did prior too, and usually, for a while after their marriage.

The average woman is so constituted that she must be the recipient of these little attentions, at the hands of her husband, or her love for him grows cold, withers away and finally dies out altogether, and all through sheer neglect. A great majority of women, from their very natures and innate modesty, are incapable of making love to a man, but must be made love to, and if they are the recipients of loving attentions from their husbands every day all through life they will return in kind and in fuller measure.

Love between husband and wife is very much like a delicate house plant. A slip is procured; a nice jar of soil suitable to its needs is prepared; the plant is put in it and then it is placed in a situation that is best adapted to its growth. Now if the plant is given little daily attentions, light, warmth and moisture, it grows in size and beauty and becomes a joy to all beholders. But let it alone; don't look after it in any way, and what is the result? In a short time it stops growing, soon withers, fades away and dies. Now I have seen so many cases of unfaithfulness on the part of the wives, that had their origin in the neglect of their husbands to give them the same attention daily, in little words and deeds, that first won them for wives that I am morally sure I am right. Let a man neglect his wife in this particular; her love for him soon grows cold. Some other man comes along and proffers her the attentions her soul so much craves and she accepts them—innocently, no doubt, in a great many cases, and the result is jealousy, bitterness, and, in many cases, divorce. On the other hand, if the husband supplies the needed requirements of her woman's nature, not so publicly as to be noticeable, but in the privacy of their own home, daily all through life, there is not the slightest danger of unfaithfulness on the part of either, and the result is lifelong happiness and comfort.

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Among the Flowers.

ROSIE TULL.

The bleeding heart is a very pretty flower, and I think it must be one from our grandmothers' gardens. I can remember, when a mere child, of seeing a bunch growing and blooming in my grandmother's yard. It can, no doubt, count its age by scores of years, and yet it attracts little attention from seedsmen. How few are the catalogues that make mention of its existence, even, and fewer are they that have a description of its merits and beauty. There are only a limited number of them in this locality, and many are they who ask, "And what is the name of this flower?" This has convinced me it is not known and appreciated as it should be.

It is one of the earliest bloomers, and grows about two and one-half feet high. Its stalks are very succulent and of a reddish color, with medium green leaves. The blossoms are red, heart-shaped, showing a little white at point of heart, appearing as do the leaves, small at first, growing to about one inch across. They are suspended point downward, from one to twelve or more on one long stem, which springs from a main stalk. The bloom extends beyond the foliage and literally covers the plant with strings of bright red hearts. Though beginning to bloom so early there are often a few scattered hearts still remaining after the roses are gone. It peeps through the ground sometimes long before the freezing weather is over and likewise as soon as its blossoms have dropped, it pines for repose. Its top springs anew from the roots each year. Being very tender, it is susceptible to frost, and should be held in check as much as possible. For this purpose cover it well with stable manure while the ground is hard frozen, during mid-winter. This holds the frost in the ground a little longer and does not let the plant start quite so early. Just leave the manure alone and let the plant come up through. The manure does no harm, and makes nourishment. Secure a good, strong root from a neighbor, or from a seedsman. Select a place where you mean to have it stay, for it bitterly resents being molested after its roots are established, and seems to thrive best where it has lived longest, if supplied with plenty of nourishment, and is not too near trees. Dig a cavity about two feet in diameter and one and a half or two feet deep; fill this with one-fourth well rotted cow manure, one-fourth chicken manure and the other half garden soil. If a very heavy loam, add a little sand to the mixture. Mix well and set the plant in the centre, pressing the soil firmly around.

I can only speak of spring planting, as I have never tried transplanting it in the fall, and do not know how it would thrive. I have never had any trouble getting it to grow, although it seldom blooms the first season after transplanting. I almost spoiled the blossoms of my bunch last year by digging some of its roots. It was not the loss of roots but the little stalks that had started were so tender that they were easily broken, and their being broken also meant that the blossoms were broken asunder.

[Miss Tull would be glad to exchange a few dahlia seeds for the seed of some flower she has not. Her address is, R. F. D. No. 1, Walker, Mo.—Ed.]

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* * * * * * * *

E. L. R., Leesburg, Ind., writes: My hyacinth bed was a thing of beauty all summer. When the hyacinths were well up I planted sweet alyssum between them, and by the time the hyacinths were done blooming the alyssum had commenced to bloom, and soon the whole bed was a mass of white, which lasted until Nov. 2nd, enduring several quite heavy frosts.

Will give my experience with peonies. Late in the fall I remove the dead stalks, cover the beds with fresh horse manure to the depth of two or three inches. In spring. I rake it off. And such blossoms! Last summer they were almost as large as a breakfast plate.

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Correspondence.

Aunt Araminta, Md., writes: I wish Mrs. Melville, and the rest of you, could see my flock of hens, but you could not see them all from one window. You would have to look at all points of the compass, for they go all over the farm. They are a mixed lot, all colors, but they all have red heads, and they are a pretty, happy lot of hens, about 125 in all. We tried to eat all the roosters, but so far have not succeeded, as there are nearly twenty yet to eat and give away. I set hens twice in the year to raise what I want, but, oh dear, they steal their nests away and come from under the barn and in from the orchard, and first thing I know the place is swarming with little chicks, which I feed and then let run. I get a basket of eggs every day.

Aunt Clarinda, Richmond, Kan., writes: Mothers, I would urge you to impress the matter of being particular upon your daughters. There is such a thing as being too particular, but very seldom do we find one of that nature, and then it is apt to be more a habit of fault finding and requiring others to be particular than of being particular ones-self. What I want is, the girls to be particular about their work, and do everything in the best possible manner, even if they do not accomplish so much as if done in a haphazard way. Remember the old adage, "What is worth doing at all is worth doing well." It is a lamentable fact that American women, as a rule, are too careless about the way in which they do their work. There are those who pretend to be neat and nice, but do not seem to know the first rule about doing house work. They will sweep a room several times a day; that is, brush a little around in the centre, while the sides and the corners are seldom touched, and consequently are seldom clean. Now a thoroughly good sweeping once a day would require less time and have a far better effect. Teach the girls to get into the corners and also to brush down the cobwebs, to set the furniture in order and wipe off the dust; also to keep the stove and windows bright, the lamps and bric-a-brac clean; teach them to make beds so that they will be a pleasure to look at, and also a comfort to sleep on. See to it that they keep their rooms in order, and when they come from school, or elsewhere, see that their wraps, rubbers, books and lunch baskets are put in their proper places. It will require far less time than to go around and gather them up and put them away afterwards. This teaching should begin from their earliest childhood, and will then be an easy matter compared with training them when half grown. If children are required to put away their playthings, and, as they grow older and do their own sewing for their dolls and piece quilts, to gather up the scraps and put things away properly, it will soon become second nature to them, and they will take pride in having everything nice, and will readily learn the difference between doing work right and doing it in a careless or slovenly way. Always set a good example for them. If, in sewing, the room becomes littered, pick up the scraps and threads which lie around on the carpet. It will save many a sweeping; do not let them accumulate until it becomes such a task as to be dreaded. Be sure to have everything orderly at meal times, for what man does not dislike a disorderly home, so that when he wants a chair he must even take things off of it in order to have one to sit on. I have been at such places. I have also been at places where everything was so out of order that if they chanced to see anyone coming it would be "Oh, girls, what a room!" and such a hurrying around to have things at all fit to be seen, and some of them would have to comb their hair or change their dresses before they could appear before company. Such a commotion, and all unnecessary! Keep your house and your clothes at all times in a respectable condition, then you will not need to be ashamed, whoever comes, and you will be in a far better humor to entertain than if your guests found the house all topsy-turvy, and yourself in an untidy condition. One finds that it takes less time to have a well-kept and orderly house than to have everything upside down the greater part of the time. In an orderly home, where everyone is particular to put things in their proper places, there will be much more leisure time, the work will be easier, everyone will be in a better humor, and consequently the home will be happier, and life will be worth living.

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Youth's Parliament.

Katie Lammert, Clover Dale Farm, Mo., writes: Dear Mrs. Melville: I thought perhaps you and the readers of the P. F. would be interested to hear how we raised a few dollars for the Christian Home, Council Bluffs, Ia., and how, at the same time, we entertained a few of our friends in a simple, homelike way on Christmas night. The roads were very rough, and Christmas trees and exercises were no closer than five miles, so mamma and papa gave us girls permission to invite our teacher, schoolmates and some other friends, numbering thirty in all, to a "Christmas social." Sister and I went out in the woods and selected an evergreen. It was brought home and decorated with candles, candles, tinseled pictures and other bright things that glitter in candle light. Moss was put around the foot of the tree and a shining angel and star were hung at the top. We covered pasteboard letters spelling "Christmas," with cedar and tacked on the wall; put up Christmas pictures around the room and placed a candle here and there. After everything was lighted it was a pretty sight. When our guests had arrived we sang Christmas songs, recited pieces, and papa read the Christmas lesson from the Bible. Then we had a couple of tableaux, after which papa got up and in a short speech told our friends of the "Home," how it was conducted, etc., asking them to give what they wished. Each responded heartily for young people who, living in comfortable circumstances, know nothing of want and cold. Mamma then served us with apples, candies, nuts, pies and cake. We then played games, such as authors, dominoes, Dewey's victory, etc., and when the midnight hour was nearing our social broke up, and they said they had enjoyed themselves very much. It will be a little event that we will long remember, for it gave us much pleasure, as well as giving pleasure to others.

[We think this one of the most praiseworthy affairs that we have heard of. How much grander and nobler than something gotten up alone for selfish pleasure.—Ed.]

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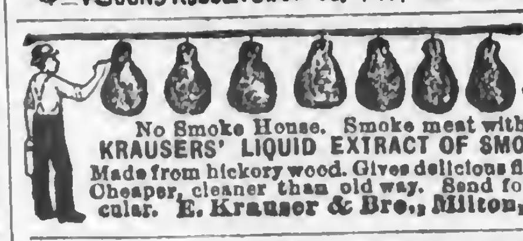

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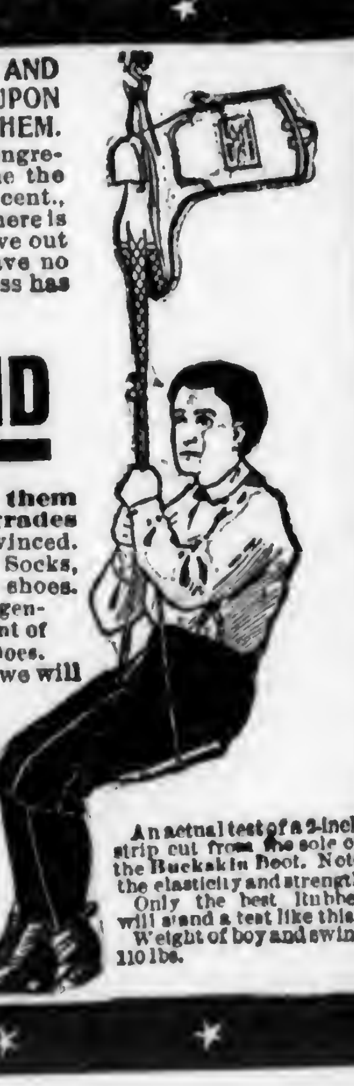

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Topic No. 563, March 14.—*What Varieties of Pears Have You Found Most Profitable, and How do You Cultivate and Pack for Market? Have Dwarf Trees Been Profitable?*

Topic No. 564, March 21.—*For the Ladies. How do You Make the Washing of Dishes, Pots and Pans Easier and not at the Expense of Time and Cleanliness?*

Topic No. 565, March 28.—*Have You Ever Tried Flat Culture with Cotton, and What is the Best Distance to Thin in the Rows and Between the Rows?*

Topic No. 566, April 4.—*How Do You Raise Turkeys, and What Breed is Best?*

Topic No. 567, April 11.—*What Varieties of Peaches Have You Found Most Profitable and How do You Manage Your Peach Orchard? Mention Best Two Varieties for Early, Mid-Season and Late.*

Topic No. 561.—Have You Adopted Any Systematic Method of Improving Your Seed Corn; if so, How, and With What Success?

H. J. Anderson, Welsburg, Ind.—Yes. For a number of years we selected our seed corn while husking. Our main thought in selecting was to get good sized ears with small cob, well filled out at the point. Of course we chose only sound corn that "would grow," and usually hung it up on poles in some dry, airy place and thereby secured seed of good germinating power. However, after thinking and reading more on the subject, we began selecting with a view to increasing productiveness, as well as maintaining other desirable qualities. We began by selecting only from stalks that showed a tendency to throw out two ears; sometimes one would be only a "nubbin" but we chose the better one for seed if good in other respects. At that time we found very few stalks bearing two good ears, but always saved both when found. After a year or two we had no trouble in finding plenty of stalks bearing two ears, and always chose the biggest and best filled out for seed. However, for the last few years we have been trying to follow the advice given in the P. F., and save only the bottom ear of the two. We now save our seed while cutting the corn, in place of at husking time, and save seed from stalks that bear two good ears moderately close to the ground, with fair length of stem to ear, so that they hang down, thereby shedding water well. We also choose for earliness in ripening, as we sow our corn ground in wheat after corn is cut, and whatever we add in earliness will give us that much more time to prepare the ground thoroughly for wheat. We still find our old plan of drying and saving the seed (by hanging on poles in some dry, airy place) very good for the average farmer, but one making a specialty of growing seed would need artificial heat and a room arranged for that purpose. Now as to the result of all this seed selecting, will say that our yield has been steadily increasing, and while part of this is probably due to better fertilization and more thorough cultivation, I feel sure a good part is due to seed selection. When we started to improve the seed very few stalks had more than one ear each, and quite a few had none. Now we have very few barren stalks, and a good per cent. have two good ears each; I also found a few stalks this fall with three good ears each. Just how far one can carry this prolificness profitably I am unable to say, but think two or three ears are likely all a stalk can bring to perfection. We hope in a few years more to have a type of early and prolific corn thoroughly enough established that it will reproduce itself with reasonable certainty.

H. P. Brockett, Bristol, Conn.—Some years ago we adopted the plan of saving seed from stalks having two ears. This has improved our corn so much that for some years past we have saved only from three-eared stalks, and of these only perfect specimens. Quite a large proportion of the crop now bears two to three ears. The variety of sweet corn that gives the best results is a cross between Stowell's Evergreen and Squantum.

M. L. Hobart, Cochranton, O.—In improving my seed corn I adopted as an ideal plant one with medium stalk and broad leaf, two good 18 to 20-rowed ears to the stalk, ears set rather low down and turned down. I raise white corn with white cobs, and ears as near a foot long as I can get them. To secure my ideal I select at gathering time, such ears as come nearest to it. I have used large, single ears and such twin ears as I could find, picking usually the bottom one of twin ears. I plant these as near as possible in the middle of my field to avoid mixing with other fields, and give this patch extra care in culture, thinning and removing of barren stalks. In fall of 1901 I produced a stalk that came near my ideal, in that it had two ears of 20 rows, but they were but 8 inches long and too high on the stalk. I kept these separate and planted them in a patch by themselves, but the result was not satisfactory, as they produced all sorts of ears and on stalks so high that some ears were eight feet from the ground. Perhaps the change from a locality 40 miles south of this in Illinois, and the unusually cool and wet season, combined with the higher altitude, influenced the patch. But I had several good stalks with twin ears approaching my ideal, and I shall try again. Trying to improve my seed corn has greatly increased my general yield.

Frank Hathaway, Abington, Mass.—I began by picking out the earliest ears and the ones that bore two ears on a stalk and were nearest perfect. Every year the number of twin-eared stalks increased. This year I shall plant only the most perfect ears where there were two. I am thus hoping to get more hills with two good ears on each stalk.

W. F. Eltzroth, Morrow, O.—Sixteen years ago I took seven or eight varieties of corn, early, medium and late, and of all colors, and planted them all together. I selected speckled ears that came nearest my ideal in size, shape and depth of grain. For several years there was a mixed up lot, but by selecting ideal ears I have now a true type of speckled or calico corn which, on thin land, will produce more sound, well matured corn than any variety I have ever tried. Ears are of good size, large grains, small cob, ripens early, making few nubbins or soft corn. While pure white or yellow corn is the favorite with most people, my speckled corn pays me best, and is very pretty in the crib.

John M. Lane, Miamisburg, O.—In breeding corn one must have a distinct ideal plant to which he wishes to attain. I wish to grow on the bottoms of the Great Miami, a corn plant that grows strong and sturdy but not too tall, and one that bears its ears well down on the stalk and ripens early. I want a long and rather thick red cob, with large, deep yellow grains in straight rows, with the ends well butted and tipped with grains. Some object to a thick cob as slow in curing, but we have no such difficulty, and a cob large enough to bear 22 to 26 rows of deep grains will produce more shelled corn per plant than one whose capacity is 12 to 14 rows. In the last three years we have made a gain of 25 per cent. in an improved grade of corn. Would prefer to make the selection in the field before husking, but then have not the time. So we have adopted the plan to have a box at the rear of the wagon when husking, and in this put the ears that come nearest our type. These are again selected over at barn, and the seed ears are placed on a board along the crib to cure. During the winter they are culled over a third time and only the ideal ears, as stated, selected, and from these the very best are planted by themselves for further improvement. This year we raised corn with more rows on the ear than ever before. The grains are larger and many of them measure one-half to nearly three-fourths of an inch deep, and of a better color than heretofore, and consequently we had more corn per acre than before.

S. W. Burlingame, Sharon, O.—I began eight years ago to breed a better type of corn, and have succeeded beyond my expectations. My corn is made up from the Mastodon and Golden Beauty, and a Western corn, the name of which I never knew. Selecting a certain type annually, I have reached my ideal, a fair sized cob, with good length and well filled at both ends. Grains deep and thick. S. H. Ellis, of Waynesville, Ohio, saw my hill corn and said that it was as good as they could grow in the Miami Valley. He advised me never to change till I was sure of something better. I select seed corn at husking time, cure it perfectly and store in barrels in a dry place, where the rats and mice do not find it. I expect to sell all I do not need, to neighbors, as many are giving up their old sorts and want mine. I enclose a snapshot of the field just before cutting time. The three ears shown are 38 inches long. This looks like bragging, but I can tell of success in no other way.

F. M. Brally, Clyde Park, Ark.—I was taught, when a boy, to select the best ears I could find in the crib, for seed. Later, I learned to select from stalks that bore two ears. So at gathering time I selected the upper, or finest, ear from twin stalks. Later, I learned from the P. F. to select the lower ear for the best results. I adopted this plan and have practiced it several years, and the results have been good. In cutting corn, when I find a stalk with two good ears on it, well filled to the end, I leave it standing. After the corn is well matured I gather the lower ears, strip the shuck back, tie two ears together and hang them up till wanted. When I get ready to shell I select the ears that suit me best, a medium sized ear with small cob and well filled to the ends. Formerly the upper ear was usually the larger, but now I raise twin ears of the same size on a large majority of the stalks, and a barren stalk is very rare, and occasionally there are four ears on a stalk. I have made a marked improvement in my corn year by year. I grow a pure white that makes the finest of meal, and am very careful to keep it from mixing with yellow corn.

L. C. Griffith, Bessville, Mo.—Those who do not intend to keep up a regular system of seed corn improvement had as well not begin, as their results will not be satisfactory, and they had better buy seed from seedsmen every two or three years. Those who have a good idea of what they want to work to, and can recognize it when they see it, and have the necessary perseverance, may realize great benefit from systematic improvement. Indiscriminate crossing and mixing will not do. We save seed when husking, and only save large, well matured ears from stalks with an abundance of fodder, bearing two ears near the ground. At one time we were improving our Hickory King by just such selection, using only twin ears of good type. After a few years it ran as high as four ears to the stalk, and more with three ears than there were of barren stalks, and more with two good ears than with but one, and with grain so large that it will not go through my corn drill with inch holes. Some varieties do not yield as readily to improvement as others. The corn breeder must prepare for a long chase for success. But with a few clean barrels handy to drop the ears in as husked, it is not a hard job. I mark twin ears by leaving the husks on. Then on stormy days in winter I bring in a barrel of corn, spread a threshing sheet and shell and measure corn and keep the fires burning.

C. J. Moore, Morrisville, Vt.—My father came here 48 years ago, and the following spring bought his seed corn, a small, eight-rowed variety of yellow flint corn, ripening quite early. On account of its earliness he went to work to improve it and was successful by selecting the longest perfect ears with the largest grain for seed, for thirty-five years. He increased the length of the ears from 5 to 7 inches to 8 to 10 inches, and the kernels nearly doubled in size without interfering with its earliness. We follow the same practice with good success.

C. C. Beals, New London, Ind.—We go through the field before the corn is cut and select the most perfect ears from stalks that produce an abundance of leaves. A better method, probably, would be to plant a field especially for seed and cut out all inferior and undesirable stalks. In the spring we go over ears selected and plant only the best.

W. C. Graham, Cedar Mills, O. — Select seed corn in the field before cutting. Take the most perfect ears from the windward side of the field, as these will not be fertilized by the pollen from barren stalks. [Better not let the barren stalks make any pollen.—Ed.] Stalks with one good ear near the ground are best, as this will tend to produce low, heavy stalks and not so much fodder. With a little care and judgment one can greatly improve common varieties of corn, and there will be no danger of its running out.

J. O. Shroyer, Humboldt, Neb.—We have had one white corn on our farm for twenty years. When we first got it there were many ears with very large butts, which ripened late and were soft and the big shanks almost strained one's wrist to snap the ear. We began to select only the well formed ears, with well covered cob and deep grains, and we soon had a better corn, and do not now think there is anything in the running out theory if proper selection is made annually. We select the seed when husking, as we can then sort over a load of thirty bushels and retain only a small portion of the best ears. In Southern Nebraska it is only necessary to store the seed in a dry granary. Further north it must be kept in a warmer place. By leaving out the uneven grains at the butt and tip a more even stand may be had. If an ear is all right in appearance but lacks weight we reject it. We want a large and well proportioned ear, that will weigh out. One can soon learn to judge an ear by weight, as this shows its solidity which is the true test of its nutritive qualities and usefulness.

C. M. Hunt, Gamble's Store, N. C.—I decided, fifteen years ago, that I wanted a moderately soft kind of corn, and not finding what I wanted, I started to make my own stock. Wishing a shallow half dent, I thought that probably a cross of a heavy flint on the old gourd seed corn would give me what I wanted. In 1888 I planted equal quantities of these mixed. I had some shallow dent with long and heavy grains. My ideal is a corn with ear of 16 to 18 straight rows of 65 to 70 grains ¾ of an inch long, and an average of half an inch wide, closely fitted on a slender white cob. In the fall I select the lower ear on all double eared stalks, if the stalk is healthy and well proportioned, and stow these away. At husking time I throw out several bushels of ears as nearly resembling each other as possible, and place them in a warm room to dry out. When well seasoned I shell them, discarding every ear that does not approach the ideal, and all the ears that have not a smooth and velvety cob. My seed for this year is now all sacked, and I would not exchange it for an equal amount from any other crib.

Watson Roper, Smitum, Ga.—At husking time, when I find an ear that suits me, growing on a well developed stalk, I throw it in the front end of the wagon box. When unloading, I place these in a barrel and take them to the house and put the best ones where they will keep dry. In the spring I go over it again and discard all ears that are not satisfactory, and then shell it. We are not much bothered with rats in the house, for our old cat takes care of them. The plan seems to be succeeding. I am a boy only 15 years old, and I take the P. F., and expect that I am the youngest one that will write for the Pool.

[Our young friend writes a bold, strong hand, and spells well, and if he keeps on studying farming and reading the P. F. he will make a successful farmer. But get some good white paper and write with pen and ink. Anything that is worth doing at all is worth doing well. We, as a rule, reject all letters written in pencil on dark, coarse paper, and make an exception of your because the large and bold letters are easy to read. But we will not attempt to read pale, little letters made wih pencil on dark paper.—Ed.]

A. J. Umholtz, Tum, Ark.—I plant the best seed corn I have, from which I want to select my next year seed, in a good place, where it will not get mixed with other corn, and give it special care. When corn is ready to cut I go through and gather the seed corn from places where there are no barren stalks, and from such stalks only as have two ears. The stalks must have the ears low down and large ears for the size of stalk. I gather more than I need, so that I can make another selection of the best ears. I hang it up in a dry room till ready to plant and always have seed that will grow. This year I have separated the lower ears from the upper ones and will try to see if there is any difference in production. [You will hardly see any difference in one season, except that the lower ears will probably make the greater number of twin eared stalks.—Ed.] I formerly planted one stalk in a hill. Last year I had two stalks in nearly every hill, and on some hills four nice ears. Last spring I sent for some seed corn from a man who has made a specialty of seed corn for twenty years. Yet his best variety did not yield as well as my own on the same soil and with same care.

R. D. Myers, New Chester, Pa.—I give particular attention to the size and uniformity of the ear, with deep, heavy grains and small cob, well filled at the ends. Going through before the corn is cut I select such ears from as small stalks as possible. This gives me good ears and light fodder. Large ears from heavy stalks generally give heavy fodder. If I cannot find enough seed in this way I make another selection at husking. At planting time we select the best from the selected ears for planting, drilling it in the best part of the field, and from this part select for another year. In this way I expect in a few years to make a vast improvement in my corn crop.

J. W. Phillips, Lancaster, O.—I go in the field just before cutting time and select medium long ears, with as small a cob as I can get, and as deep a grain as I can find, with rather a rough top to the grains, ear well filled out at ends. These ears are placed where the mice will not reach them, till Christmas, and are then shelled, and I get good results. Corn taken from the crib in spring does not come up well. I think the Experience Pool is a great help to farmers. I know that it is to me.

D. W. Stahl, North Jackson, O.—We begin husking our corn early in the fall, as soon as it is dry enough to crib. From the best and earliest matured corn we save our seed, selecting the best only, giving preference to an ear of medium length, deep grains, straight rows and small cob. We find many stalks bearing two ears. From such we choose the lower ear for seed if it suits our fancy. I am sure that in so doing we are inducing the corn to ear lower down. We find that it produces better crops, one reason being that it will not lodge so badly in storms as when the ears are higher up. Our seed is placed on shelves in a dry, airy room till well cured, and then shelled and sacked, making prime seed sure to grow.

T. J. Watkins, Poplar Hill, N. C.—I prefer new land on which to grow my seed corn, so that it will be free from smut of blast. I select such stalks as come nearest my ideal of a corn plant, neither too low nor too tall. I want it healthy and with two good ears as near the middle of the stalk as possible. If both ears are good and well filled both may be taken for seed. Otherwise I select the best one. I tried taking the lower ear and the top one without noticing any material difference on the next crop. [The processes of nature do not show so quickly. Try it for half a dozen years, comparing the product of the two ears.—Ed.] One should grow a seed plot each year if he would keep his seed from degenerating. Then we prefer to burn all stalks left in the field rather than have the cut worm and the chinch bugs. Having a fixed type of corn, do not allow any other planted near it. You had better give seed to your neighbors than have yours damaged by them. Stick to the seed grown in your own section.

Benj. Ringwald, Madison, Ind.—Nearly all the farmers here pick out the big ears from the crib in spring, or buy from a neighbor, and then if the crop is poor they say the seed has run out. In 1897 I began to take the P. F., and I learned something about growing seed corn. I began in 1898 to select my seed from the shock and the best and lower ears on the stalks, selecting in that way for three years. I then began to raise a patch some distance from the main field, according to P. F. teachings. I kept all suckers and smut off, and cut the tassels off the barren stalks before the pollen ripened. Last year I had but 10 or 12 barren stalks on a quarter of an acre and 160 stalks had two ears each. This plat was not as good corn as my main crop. It produced but 12 bushels of sound corn, and I picked out 5 bushels of fine seed. Out of this I will plant my main crop this year, and from the lower ears will plant my seed plat. I have a fine yellow dent corn with small cob, shelling 58 pounds to the bushel. I always shell the whole ear for seed. I know it fills out better at the tips. I have faith in Prof. Massey's way of raising seed corn, and hope to improve my corn every year. I believe that every farmer can raise his own seed corn better than anyone can do it for him.

C. L. Moss, Hammonton, N. J.—I select at husking time the finest ears with deep grains, small cob, and cobs all of one color, rejecting ears that have cobs larger at the butt. I wish the corn of a uniform color. I test each ear to see if the germ of the grain is sound and bright colored. If mouldy or dark in color I cast it aside. I cord up my selected ears in a closet in the attic, lined with one-quarter inch wire netting to keep the rats and mice out. I do not plant the kernels from the ends of the ear. I have nice corn, and good corn when others fail, but I believe in getting two or three new kinds of seed from a reliable seedsman every few years. It is a benefit to change seed occasionally.

S. A. Maples, Sevierville, Tenn.—Three years ago I selected an ear from my crib, as near my ideal of what a good ear should be as possible. Today I have corn better than any other in the county. I select about half an acre of good land, not near other corn. Cultivate well and take out all inferior stalks as soon as seen. When silking and tasseling the corn is again gone over, and if any inferior stalks are found they are cut out, so that the ears are fertilized by pollen from well formed and healthy stalks. Before gathering time this piece of corn is gone over and a few of the best ears of well formed stalks are selected for next year's seed patch, and the rest used for selecting seed for the general crop. Each year the practice is to be kept up and it cannot fail to improve the seed. If we wait till fall or gathering time to select seed we may get good ears, but they may have received pollen from very inferior stalks. It is just like turning two bulls in a herd, one a full blood and the other a scrub. We may know that the cows are in calf, but as probably by one sire as the other. At any rate I am well pleased, and surprised at the results so far, and will continue this plan till I know of a better one.

B. P. Wagner, La Belle, Mo.—In husking, a box should be fastened at the rear of the wagon and the best ears thrown in it for seed. Not necessarily the largest ears, but those of good shape and well filled at tip, and the grain of good depth. When this corn is taken to the house, put it in a warm attic or loft, where it will have plenty of air and still be free from rats and mice.

M. A. Dunlap, Academy, W. Va.—When I came here from Virginia I found very poor corn. I had been accustomed to the heavy corn of our river bottoms, where the corn often grows 14 feet tall and the ears out of reach of a man on horseback. [A very poor style of corn.—Ed.] The little, stunted corn here looked worse than it really was. I got some seed of our large Eastern corn and planted it. That year it happened that frost held off till October 20th, a rare thing here, and my big corn got a little past the milk stage. I gathered and dried it and the next year planted a patch, and later, some small corn. Again I had to gather green and dry it. The following year we had a late fall and some of it ripened, but it was badly mixed in style and color. Still I planted it and selected the best year after year, and now have the best corn in all this section, which will yield 25 per cent. more than the common small corn of the region, and often 50 per cent. more. The selection of the ear was not all. I saw that the little, feeble stalk, which seemed to be the normal condition of the corn here, must be eliminated. So I planted my corn very thick, often near half a bushel per acre with a grain drill. I then went through with hoes and chopped out all weakly and delicate looking stalks as long as the corn was worked, leaving only the most vigorous stalks. Then I go through about tasseling time and destroy all corn showing signs of smut. Last season I had very little smut and though the season was bad made a large crop for this section, making 1,300 bushels of ears on nine acres I measured. My other corn was not so good, but was better than average of the section.

W. S. Sanders, Danielsville, Ga.—I have developed my corn, "Sander's Improved," till last year at the Georgia Experiment Station the best variety only surpassed it .20 of a bushel, or 16 pounds to the acre. The Government has purchased some from me this year. At first I only selected the best ears from the pile, after husking. After more thought and study I decided to select from the field, taking the top ear from stalks bearing two ears or more. That helped still more, but made the ears grow too high from the ground. Then several years ago I began to read and study after Prof. Massey, and since then I have selected the bottom ear from stalks having two or more ears, and my corn has improved very fast. I also select very carefully while husking and shelling, always shelling by hand, so as to throw out every grain from ears that do not come up to my ideal. I want the grains to grow well over the cob, and to be closely and firmly set, making a strong, heavy and well developed ear.

Jno. Jellicose, Dows, Tenn.—I am afraid that what I have done in selecting seed corn is not sufficient to be of any use. After I had read Prof. Massey's method of selection I went to the corn field in the fall of the dry year, and selected the lower ear from a number of stalks. These I planted by themselves on rich land, well manured. The result was very satisfactory, and from this patch I select my seed corn for this year, and have the best reserved for another patch. The corn selected is known here as Little Indiana Yellow, which does not grow so tall as our large white corn. It is wanted to cut with binder for cattle feed, and was chosen for that reason. If there had been any barren stalks they would have been cut out, but there were none. It is intended to keep up this selection and watch results.

SUMMARY.

Corn judging as it is being practiced at some of the colleges in the West is all right as a commercial training, but the question of the most interest to the farmers and the students in agriculture is how to produce the corn that comes nearest to the commercial standard. It is not by the selection of the standard ears themselves from the crib, for these may have been grown under surrounding conditions that will have tended to defeat the very purpose of the selection. We repeat, that the corn judging is all right as a market process, but it teaches nothing as to the methods needed to produce such corn as will score the highest. I can take corn that will not score in a contest alongside of some other corn, but which has been selected during the growing period because of its inherited tendencies, and will produce from it more standard ears than can be grown from the standard ears merely selected in the crib. If the ear alone and its shape and character were the only things to be considered in breeding up corn, the selection of the best ears would be all right. But we want other characters besides a big and well formed ear. In the northern part of the corn belt we want early maturity and the standard ear tells us nothing in regard to this. In the sections where the season is always long enough to ripen any corn, we want to look to the productiveness of the plant in the number of ears, and we want to look to the stature of the plant itself. If it is of such lofty growth as to require wide planting we cannot get the maximum crop from the land which we could with a prolific corn of smaller stature. In the South today, most of the corn has gotten into such a tall growth on good land that wide planting is needed, and it has been selected by the best ear so long that it only bears one ear on a stalk, so that when the stalks are six feet apart it is impossible for a heavy growth to make a large crop. Then, too, the big and well shaped ear in the crib may have grown along with stalks that had no ears at all, and these may have been the pollen parents of that big and fine ear, and so it will have inherited a tendency to make more barren stalks. Corn judging for the market and corn breeding in the field are two different matters. Corn properly bred will continually be coming a better standard, while corn for seed selected by market standard may make good ears and may not, more often not. I am glad to note the great interest that is being taken in this matter of improving our seed corn, and I consider the present Pool one of the most valuable the P. F. has ever printed. In the early days of the Pool we had this same topic up, and the difference between that issue and this one shows that the readers of the P. F. have been studying, and, like their corn, are improving. We like to have the same topic up at considerable intervals, so that we can see what the P. F. is doing for its readers. There is no need for the Editor to go over what he has so often said in regard to the methods of breeding up corn or other crops, for our readers are evidently catching on. This Pool discussion is well worth the study of corn growers everywhere.

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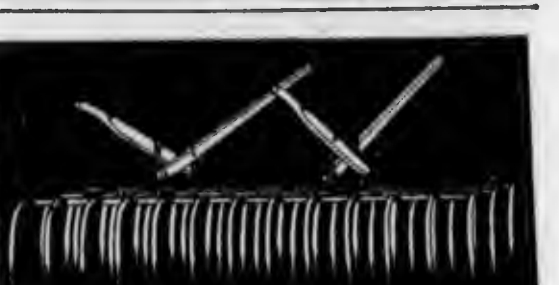
Wanted, April 1st—married Protestant man as working assistant foreman on truck farm, competent to assume duties of foreman when business warrants it; willing to board help; must be respectable, good character and habits; 7-room house. Write fully former experience, nationality, age, copy of references, size of family, wages expected. No one afraid of work need apply. B. P. M., Box 34, South Bound Brook, N. J.

BUY DIRECT FROM FACTORY, BEST MIXED PAINTS At WHOLESALE PRICES, Delivered FREE For Houses, Barns, Roofs, all colors, and SAVE Dealers profits. In use 61 years. Officially Endorsed by the Grange. Low prices will surprise you. Write for Samples. O. W. INGERSOLL, 255 Plymouth St., Brooklyn, N. Y.

ADVICE TO MOTHERS

Mrs. Winslow's Soothing Syrup should always be used for Children Teething. It soothes the child, softens the gums, allays all pain, cures wind colic, and is the best remedy for diarrhœa. Twenty-five cents a bottle.

CLARK'S SULKY CUTAWAY REVERSIBLE DISK PLOW CUTAWAY HARROW CO. HIGGANUM, CONN USA SEND FOR CIRCULARS



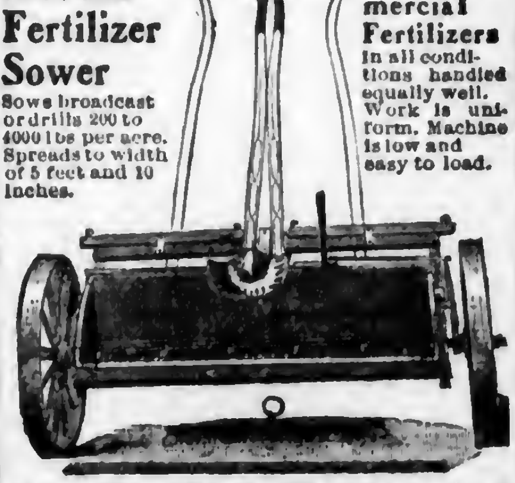
Announcement

We have obtained the Court's decree against two additional manufacturers who have been infringing our patent. The rule of law is: "The maker, seller or user of an infringing device are all liable in damages to the owner of the patent infringed." The Janesville Machine Co. and the Keystone Farm Machine Co. are the only firms licensed to use a *flat tooth* covered by our patent, and we finally warn sellers and users of all other makes. So admirably have the 60,000 "Hallock" Weeders done the work for which they were designed, that one maker after another sought to copy it. However, by the various Courts' decisions, these makers are compelled to abandon the manufacture of a Weeder having flat teeth, and they are now experimenting with other shapes; but it is the flat tooth that made the "Hallock" Weeder famous, and in view of the manner in which our patent has been sustained, it is dangerous to use an infringing tooth. Write for descriptive circulars and prices.

HALLOCK WEEDER & CULTIVATOR CO.,
Box 803 York, Pa.

IWANS' Post Hole and Well AUGER Best in the world for Fence and Telephone Post Holes, Wells, etc. Used by U. S. Govt. Highest award World's Fair. Size 4 to 10 in. $2.50 AGENTS WANTED Thrice the work accomplished with an "Iwan" than with any other. Show this to your hardware or implement dealer or write for particulars. Special price to introduce. Address IWAN BROS., Box P, STREATOR, ILL.

Seed Corn $1.00 bu. and up Michigan Northern Grown is the earliest and produces largest crops. Hammond's Sixty Day Flint, American Pride, Race Horse Dent and Thoroughbred White Dent are the 4 famous varieties today. American Pride made 197 bu. shelled corn per acre. Fifteen other sorts. 100 page catalogue fully describing these wonderful corns sent on request. HARRY N. HAMMOND SEED COMPANY, Ltd. Box 47, Bay City, Mich.



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Stevens Fertilizer Sower Sows broadcast or drills 200 to 4000 lbs per acre. Spreads to width of 5 feet and 10 inches.

All Commercial Fertilizers in all conditions handled equally well. Work is uniform. Machine is low and easy to load.

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PREVENTS weak bones, paralysis of the hind legs and "thumps" in pigs; "big head" of foals; "rickets" of all young animals; abortion due to incomplete nutrition, and a host of other troubles.

A Potent Food for Work Horses, Dairy Cows, Poultry.

Write us for booklet giving valuable information about Blood Meal and our other feeding products. Consult us free of charge regarding stock diseases.

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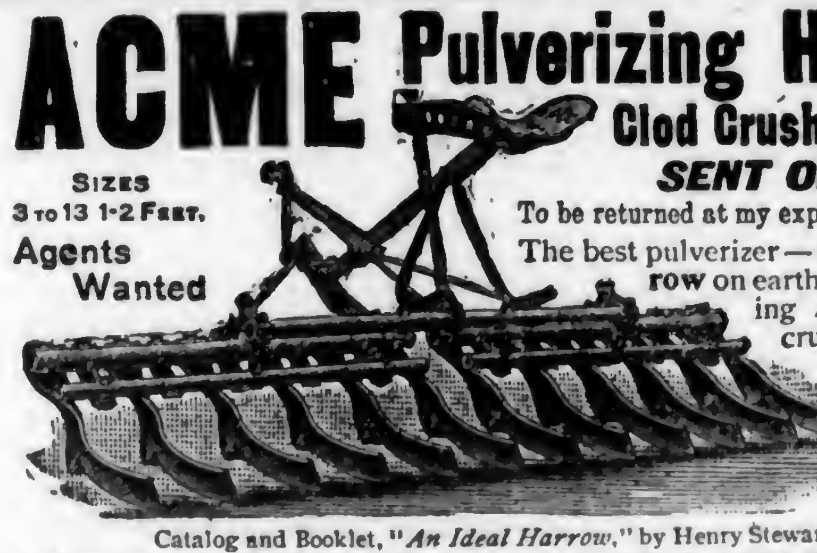

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Sizes 3 to 13 1-2 Feet. Agents Wanted

To be returned at my expense if not satisfactory. The best pulverizer—cheapest Riding Harrow on earth. We also make walking Acmes. The Acme crushes, cuts, pulverizes, turns and levels all soils for all purposes. Made entirely of cast steel and wrought iron—indestructible.

Catalog and Booklet, "*An Ideal Harrow*," by Henry Stewart, mailed free.
I deliver free on board at New York, Chicago, Columbus, Louisville, Kansas City, Minneapolis, San Francisco, etc.
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Mistakes, Failures and Successes.

In this department we publish the Mistakes, Failures and Successes of our subscribers. They are equaly instructive and necessary, pointing the way to success. Subscribers are cordially invited to send accounts of efforts they have made which resulted in failure, as well as those which proved successful. Give in a few words your experience of anything connected with farm or household work. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Only helpful communications of value to P. F. readers will be accepted. The head of the column will be considered the position of honor each week. Send all communications to Geo. T Pettit, Oneida, Kan.

Elevating the Whole Load.—I live in Cornville, Me., which is a very nice farming town, and will raise anything that any part of the State will raise. It is a nice place for scenery: can see 50 miles to the west and southwest; also the village of Skowhegan, 7 miles away. Fine place for hunting. Game is moose, deer, raccoon, squirrel, duck and partridges in abundance. On the east of us there is a big woods 4 miles square, and on the logging roads is a good place to shoot deer and moose, as they come out to feed on these roads. I have a big farm, and cut lots of hay. Have my barn fixed so that with one horse I can draw the entire load up to the great beams and then it is pitching down all the time. I have had the arrangement for twenty years and would not do without it, as it is far ahead of any horse pitchfork. In two minutes from the time the load comes into the barn it is drawn clear to the top of barn. One horse will elevate two tons if we should have so large a load. If any reader would like to make one, I will try to describe how mine is made. It is also very handy in storing my wagons for winter. I lay on some boards, put on three or four wagons and take them right up out of the way, so you see it is worth a good deal for that. S. BLAISDELL.

Skowhegan, Me.

[I am sure our readers would be interested in a description of your hoisting arrangement.—ED.]

Well Bucket.—Bore a 1¼-inch hole in the bottom of bucket, tack a piece of soft leather 4 inches square onto a piece of 1-inch wood 2 inches in diameter; tack one side of leather inside of bottom of bucket, close to the hole, so that the piece of wood comes over the hole on top of the leather. This acts as a valve and lets the water in when the bucket is lowered into the water; it shuts when the bucket is drawn up. If the bucket is too large bore a 1-inch hole in the side the height you want water.

Bluff, Wash. J. P. REID.

The Check Rein. — A great mistake which many farmers and teamsters make is in using the check strap on their horses to extremes. We may drive a horse an hour or so with the check strap on and do him no harm, but when it comes to compelling a horse to draw a heavy load with his head checked up, it is simply cruel. What is the purpose of the check? Simply to make the horse hold up his head and thus present a more lively appearance. Now it is true that a high headed horse does look better than a low headed one, but imagine the pain which the horse must bear when we use the check to draw his head a foot or more above its natural position. When a horse is pulling a load, naturally his head is about on a level with his body. While the check strap need not be dispensed with altogether, I do not believe it is necessary to use it in drawing a heavy load. While we are giving our mistakes and failures let us see if we cannot treat our faithful and kind friend, the horse, a little better than many now do. "Give thy horse his head and he will draw the load easier." Since our horse does faithful work for us, let us also be faithful to him. Think the matter over and you will see that it is more humane to give the horse his head when drawing a load. H. RAY MERCER.

Upton, W. Va.

To Prepare the Pansy Bed.—We hear a good deal of complaint from some because they cannot raise pansies. They say they haven't the right kind of soil, or it is too dry, etc. Now follow these directions and you will have pansies galore. If land is thin, dig out a space as large as you want the bed and 12 to 18 inches deep. Fill this dugout to within 5 or 6 inches of the top with the very best top soil you can find. Level it off and get on it and tramp till it is firm, but not hard. Now for the top layer take of this good soil three parts to one part of the very best well rotted barnyard manure. Mix thoroughly and fill in, rounding over the top a little above the surface to allow for settling. After planting the seed keep ground moist, but not soggy. Keep in shade, for pansies do not like sun. After plants are up keep surface loose and water every evening in dry weather. When plants have six or eight leaves transplant to not less than 6 inches apart. A tablespoonful of flower fertilizer to each plant, mixed with soil, will be a great help. Give good, rich, moist soil, plenty shade and cultivation and they will do the rest. C. F. BARTH.

Iola, Kan.

Three Crops in One Year.—Year before last I planted 1-20 of an acre in Thoroughbred potatoes. In July I dug 12 bushels. Last of July planted same ground for second crop, and middle of August sowed in turnips. Got 5½ bushels potatoes and 10 of turnips. The past season planted same ground same way, only sowed turnips earlier. Did not get as many potatoes as the year before, but more turnips. J. W. SPARKMAN.

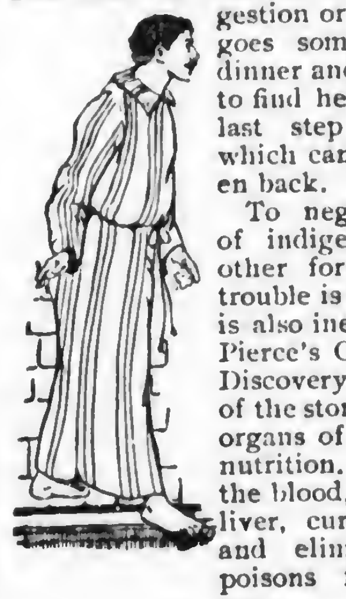
Middle Fork, Tenn.

Tomato Failure.—My greatest failure the past season was with tomatoes. I have heretofore used some form of trellis to keep the tomatoes off the ground. Last season after reading the Garden Special I decided to try Halladay's plan of a stout stake and training to it by strings. I set 50 stakes 6 feet high, pinched off all laterals and tied main stalk to stake with soft strings. They grew well and were full of fruit, but the weather was unusually dry and the sun so hot that no tomatoes ripened, but finally fell off, as did also the leaves, leaving bare stalks the first of July that looked as if they had been scalded. At the same time the trellised ones were bearing. I gave them up and went around and cut all strings, letting them lie on the ground. Here they put out fresh leaves and made a fair late crop. What is adapted to one State is not always reliable in another. The trellis seems to protect the main stem of the tomatoes best, and while I do not regret my experiment, I shall stick to the trellis as being the best for me, though the stakes are much less trouble. Where the summers are not so hot and dry I am sure they would be a great success; but they did not prove so with me, and I am thankful that I did not risk all my crop on them.

Warren, Ark. MRS. R. J. VENABLE.

Sulphur for Young Vines and Vegetables.—To prevent small animals and birds from destroying these, go over them in the morning when the dew is on and sprinkle them with sulphur. Take a piece of thin gunny sack about 16 inches square and put about a quart of sommon sulphur on it. Now take hold of the corners and sprinkle the sulphur on the vines lightly. This will prevent squirrels, rabbits, quails and all kinds of birds from eating the plants. We have followed this for years and find it a sure success. If the sulphur is blown or washed off by wind or rain, repeat the application the following morning.

Valencia, Cal. J. W. TOOF.



ONE STEP MORE

Will be fatal to the sleep-walker. Will he draw back or will he take the final, fatal step? A great many people are in peril like the sleep-walker. They are diseased. The disease is progressing day by day. The time comes when one more step away from health is fatal. The man who has suffered from indigestion or gastric trouble goes some night to a dinner and returns home to find he has taken that last step from health which can never be taken back.

To neglect the cure of indigestion or some other form of stomach trouble is dangerous. It is also inexcusable. Dr. Pierce's Golden Medical Discovery cures diseases of the stomach and other organs of digestion and nutrition. It purifies the blood, stimulates the liver, cures biliousness, and eliminates bilious poisons from the system.

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If you want a good low-priced Smokeless Powder "load," Winchester Factory Loaded "Repeater" Shells will surely suit you. Don't forget the name: Winchester "Repeater,"
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weighs 10 pounds to the rod—bottom wires only 1½ inches apart—and don't cost any more erected than a sleazy netting. Send for descriptions.
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$5.40 buys this complete set of 23 carpenter's tools and chest.
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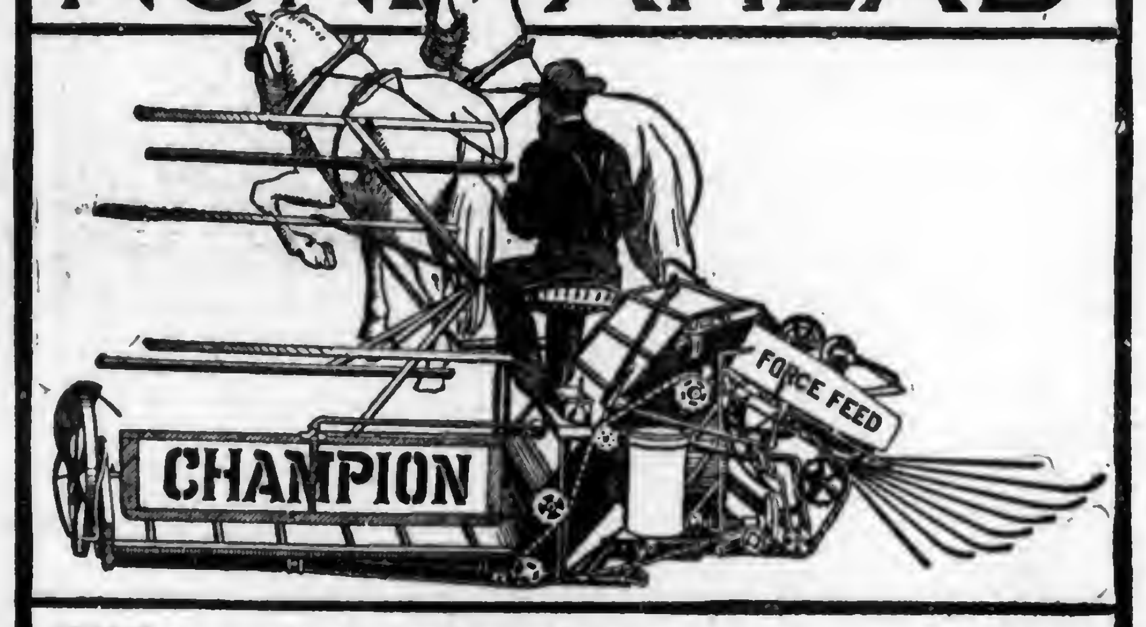

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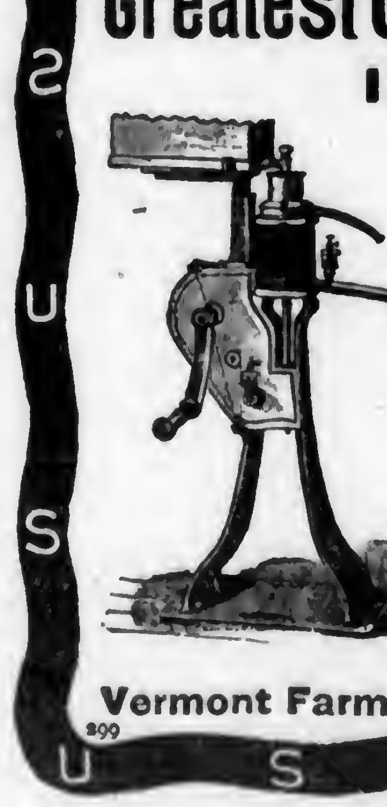

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All the best new and standard varieties. Six Weeks, Red River Ohios, Hovees, Northers, Queens, Rose, Fortunes, Quick Crop, Blush, Raleighs, Carmans, Rurals, American Giants, Green Mountains, St. of Maine and a dozen other sorts, grown in the cold north especially for seed, and stored in our frost proof, cold storage houses, which hold the stock free from sprouts till planting time. We are headquarters for seed potatoes. Our warehouses hold over 100,000 bushels or 200 carloads. Write for illustrated catalog. Ask about our *Seed Corn and Seed Oats*.
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FREIGHT CHARGES PAID BY US
Strictly new, perfect, Semi-Hardened Steel Sheets, 2 feet wide, 6 feet long. The best Roofing, Siding or Ceiling you can use. No experience necessary to lay it. An ordinary hammer or hatchet the only tools you need. We furnish nails free and paint roofing two sides. Comes either flat, corrugated or "V" crimped. Delivered free of all charges to all points in the U. S., east of the Mississippi River and North of the Ohio River
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Send for our free catalogue, telling about our three warrants on seeds.
J. J. H. Gregory & Son, Marblehead, Mass.
Gardens

Postal Card Correspondence.

This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

Located in the Valley of Virginia. Surrounded by four railroads. We have good church and school facilities. Last season was too dry for good crops; now have fine prospect for wheat crop. Very little snow this winter and the weather is very changeable; been having plenty of rain and high winds of late. Corn and roughness scarce and high. Farmers, as a rule, are raising better stock of all kinds, and looking after improved breeds and better methods, both in breeding and managing live stock; also better tillage of land, and better crop rotation of the legumes. The people seem to be just finding out that this is a fine locality for fruit when it receives proper attention. Prices: Corn, 55c.; wheat, 80c. per bu.; hay, $15 per ton; fodder, 5c. per bundle and very little for sale. WM. R. VAN LEAR.
Cross Keys, Va., Feb. 17, 1903.

Situated in Marion Co., 2 miles east of Mullins, on the W. C. & A. R. R., in Eastern South Carolina, 56 miles from the seacoast. Climate mild; land level; naturally not very fertile, but can be made so by planting peas and using commercial fertilizers together with such home-made manure as can be made with the farm animals. In the last six years land has advanced in price 100 per cent., owing principally to the growing of tobacco, which has been very successfully and profitably grown every year since first planted; 7,500,000 pounds of tobacco sold at Mullins, which averaged over 10c., and this was the poorest quality we ever made, on account of a very dry year. The low grades of tobacco sold at very satisfactory prices. Farmers are in good circumstances financially. Land, $10 to $40 per acre; cotton, 8¼c. per lb.; corn, 75c.; oats, 60c. per bu.; fodder, $1 per cwt.; cotton seed, 82½c.; peas, 60c.; potatoes, 40c. per bu.; butter, 25c. per lb.; eggs, 15c. per doz. The growing oats crop is very fine. Fine weather all the fall. Labor plentiful at 50c. to $1 by the day. Wood plentiful at $1.25 per cord. N. A. MCMILLAN.
Mullins, S. C., Feb. 17, 1903.

This is in Rankin county. 12 miles east of Jackson, our State capital. Weather is pleasant, with fresh southeast winds. People very healthy, and none are freezing or starving, notwithstanding the short crops of last year. We have plenty of the best timber for firewood, or any other use, and plenty of potatoes, turnips, syrup, and a good many have corn and meat of home production, and all could raise their provisions here cheaply if they would act in their farming as they should. Corn sells at 60c.; potatoes, 50c. per bu.; finest cane syrup, 50c. per gal., retail, at stores; Western pork, dry salt sides, 10c. per lb.; country pork, $8 per cwt.; beef at market stands, 10c. per lb. for best steak. The few oats sown last fall are fine; no freeze to hurt them yet. But little farm work is done so far; most of the farm folks here are too slow and late to begin their crop preparations, and scarcity of farm labor in this section prevails; plenty of work but labor is scarce; good farms are without tenants. Plenty of cheap lands and farms here. May the P. F. never cease to draw its breath.
D. A. SHAW.
Brandon, Miss., Feb. 16, 1903.

Located 3 miles east of Greenwood, the county seat of Sebastian Co., Ark. Principal crops are corn, cotton and cow peas. Some good stock raised here. Land is ridge and prairie; price of same from $10 to $25 per acre. This is said to be the richest coal field in the county. Corn, 60c.; oats, 65c. per bu.; butter, 15 to 20c. per lb.; eggs, 10 to 15c. per doz.; peas, from $1 to $2 per bu.; cows, from $20 to $30; horses, $50 to $150 per head; pork, 5½ to 6c., live weight; beef cattle, 3 to 3¼c. per lb.; farm help scarce at $12.50 to $15 per month; wages at mines, $2 to $3 per day. Very little plowing done yet. Land made from 600 to 1,200 pounds seed cotton per acre; corn, 15 to 35 bushels. Weather fine through January; warm and rainy now. Last two years driest ever known here, but plenty of rain this winter.
J. W. CARLILE.
Greenwood, Ark., Feb. 14, 1903.

Located in the corn belt of Illinois, 160 miles south of Chicago. Corn crop was very large, of which there is still some to shuck, caused by wet weather, late fall and scarcity of hands; there is much corn yet to be marketed, on account of the scarcity of cars. Coal panic is over and coal is plentiful once more. Winter open and damp; roads very bad; still raining. Market prices: Corn, 35c.; oats, 25 to 28c. per bu.; hogs, 6¼c.; fat cattle, 4¾ to 5c. per lb.; cows dull, $20 to $40; horses scarce and high, $50 to $200 per head. Stock doing well; feed plentiful so far; good prospect for clover; not much wheat sowed, but what there is looks well.
D. K. BEILER.
Arthur, Ill., Feb. 16, 1903.

Located in Oskaloosa, the county seat of Mahaska Co. Have had a very rainy season. The winter is nice and pleasant. Crops are average. Good farms all around us; land very productive; sells from $75 to $150 per acre. Corn crop good; sells at 50c.; wheat and oats, very little raised; wheat, 75c.; oats, 40c.; potatoes, 50c. per bu.; sweet potatoes, 3½c.; cabbage, 3½c.; butter, 20 to 22c. per lb.; eggs, 25c. per doz.; horses, from $100 to $150 and upward; cows, $35 to $40 and upward; beef, dressed, 7 to 8c.; pork, 8c.; turkeys, dressed, 18 to 20c.; geese, 8c.; ducks, 12c.; chickens, 10c. per lb.; hay, $9 to $12; straw, $6; coal, $12 per ton delivered; slack, $5; wood, oak and hickory in stove lengths, delivered, $4.50; soft wood, $3 per cord. Situated on the divide, with the Des Moines River 8 miles south and the Skunk River 4 miles north. Penn College is about three blocks distant from us; one high school and five graded schools in the city; also electric street railway; from 12,000 to 15,000 inhabitants; 11 churches. Thousands of dollars spent every year in improvements. We take the P. F. and like it very much. MRS. M. H. FARR.
Oskaloosa, Ia., Feb. 14, 1903.

Located in Western Ohio, in Miami Co. Winter so far has been cold and stormy. Wheat looks well. Prices: Butter, 18c.; chickens, 11c. live weight; hogs, 5 to 6c. per lb.; eggs, 18c. per doz.; corn, 40c.; wheat, 67c.; oats, 35c. per bu.; hay, from $6 to $12 per ton and scarce, on account of drought last summer. Corn not all in yet; some was washed down the river. K. E. CLINGAN.
Covington, O, Feb. 16, 1903.

We are located in Elkhart Co., in the St. Joe Valley, 8 miles north of Goshen, the county seat. Prices are as follows: Eggs, 13c. per doz.; butter, 20c. per lb.; hay, clover, $10 per ton; corn, 40c. per bu.; horses, $50 to $100; cows, $40 to $50 each; wheat, 72c. per bu.; chickens, live, 9c. per lb.; hogs, $6.75 per cwt. Have had fair sleighing. Grain looking well. Feed scarce. Principal occupations are farming and fruit raising. Success to P. F. and subscribers.
A. J. STUTSMAN.
Bristol, Ind., Feb. 17, 1903.

Situated 3 miles west of Greenville, the county seat of Greene Co., the home of the "Great Commoner," Andrew Johnson. All varieties of soil, some good, much badly worn. Corn, wheat, tobacco and hay are the principal crops. Entire county supplied with rural free delivery; farmers' telephones in every neighborhood. Seven new steel bridges over Nollchuchey. Southern R. R. traverses centre of county 33 miles. People industrious; fairly intelligent. The winter has been a mild one; little sickness. Mules, $60 to $175; horses, $50 to $125; cows, $20 to $35 each; stockers, 2½ to 3¼c.; hogs, 5c. per lb.; wheat, 90c.; corn, 60c. per bu.; hay, 75c. per cwt.; poultry, 10c.; butter, 20c. per lb.; land, from $5 to $40 per acre.
NEWTON C. MYERS.
Greeneville, Tenn., Feb. 14, 1903.

Located in the town of Ticonderoga, in the northern part of N. Y. Have had a splendid winter thus far, and a great deal of hauling has been done. Farmers are prosperous as a rule. Prices are high for most kinds of farm produce. Corn, 72c.; oats, 48c.; potatoes, 65 to 75c. per bu.; wheat bran, $1.25; corn meal, $1.40; wheat middlings, $1.25 to $1.40; L. feed, $1.50 to $1.60 per cwt.; butter, 25 to 28c. per lb.; eggs, 24 to 30c. per doz. There is plenty of work at the following prices: Men, $1.30 to $2 per day, without board; girls, $2 to $3 per week.
S. R. PHILLIPS.
Chilson, N. Y., Feb. 17, 1903.

Situated in Bates Co., Mo., about 6 miles from the Kansas line, in good farming country; land underlaid with a fine quality of coal. Have had a very mild winter. Some corn still in the field; average yield of from 50 to 70 bushels per acre and selling at 33c. per bu. Hogs are scarce and high, bringing, at recent sales, 10c. per lb.; cattle are plenty and not in much demand; cows sell from $25 to $45 per head. Feed of all kinds is plenty and cheap. Lots of farmers from Iowa and Illinois buying land here from $30 to $50 per acre. Butter, 17c. per lb.; eggs, 12½c. per doz. Not much small grain raised; mostly a corn and stock country. Roads are almost impassable, and so far nothing has been done toward spring work. All kinds of stock looking fairly well. Farmers have free mail delivery. JOHN F. BAILEY.
Rich Hill, Mo., Feb. 14, 1903.

$33.00 to the Pacific Coast
Via the Chicago & North-Western R'y from Chicago daily Feb. 15 to April 30. Low rates from Chicago to points in Colorado, Utah, Oregon, Washington and California. Pullman tourist sleeping cars to San Francisco, Los Angeles and Portland, daily, double berth only $6.00 Personally conducted excursions. Choice of routes. Address W. A. Cox, 601 Chestnut Street, Philadelphia, Pa.

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The Wonder Plow Attachment can be attached to beam of any plow; regulates depth and width of furrow; saves 1-3 draft on horses, relieves all labor of man, as you need not hold plow handles to do perfect plowing. 10 year old boy can plow in hardest soil.
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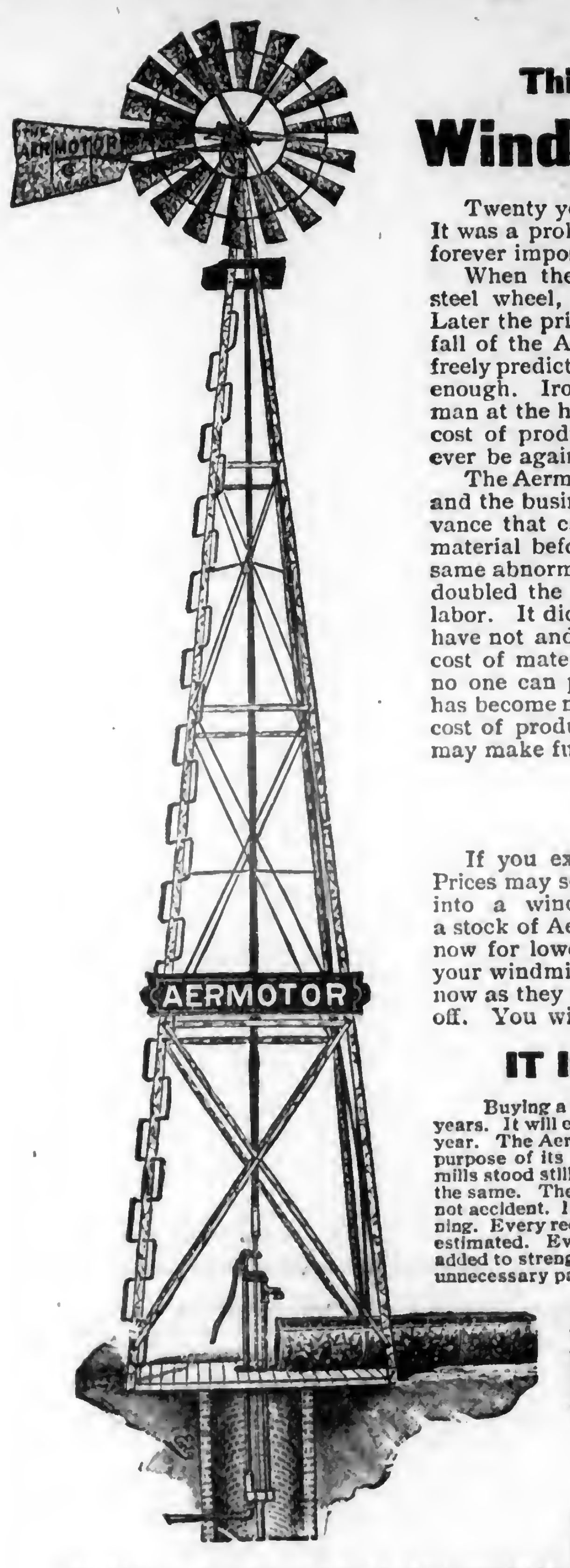

This Is to Tell Those Who Read It Why
Windmill Prices Must Go Up

Twenty years ago a 12-ft. wheel cost $160.00, and but few bought them. It was a prohibitive price which the invention of the steel wheel has made forever impossible.

When the Aermotor Company came into the field with the first 8-ft. steel wheel, which did the same work for $40.00, it "took the country." Later the price was reduced (without competition) to $25.00 and the downfall of the Aermotor Company and the ruin of the windmill business was freely predicted. But the result proved otherwise. The price at that time was enough. Iron and steel were low, labor was plentiful and cheap, and the man at the helm of the company foresaw that, for a few years at least, the cost of production would be less than it ever had been or would probably ever be again. It was his opportunity and he grasped it.

The Aermotor went everywhere. Where one went others followed rapidly, and the business soon reached immense proportions. By foreseeing the advance that came with prosperous times, and purchasing large quantities of material before prices advanced, the company has been able to continue the same abnormally low prices for three years in the face of a market that has doubled the cost of material and added a large percentage to the cost of labor. It did this in the hope that iron and steel would come down, but they have not and there is no prospect that they will. On the other hand, the cost of material and labor is constantly increasing. How far this may go no one can predict. To meet present conditions, a small advance in prices has become necessary. This advance does not nearly represent the increased cost of production, and it is quite probable that increasing cost of material may make further advances necessary.

THIS IS THE TIME TO BUY

If you expect to need a windmill this year, now is the time to buy. Prices may soon go higher. They certainly will not be lower. Money put into a windmill now will be well invested. Many dealers bought a stock of Aermotors before the recent small advance and will be able to sell now for lower prices than later. If you buy now you will be sure to have your windmill up and ready when you need it. Windmill men are not so busy now as they will be later. You may be disappointed if you put the matter off. You will not miss it if you buy now.

IT IS IMPORTANT THAT YOU BUY RIGHT

Buying a windmill is an important matter. You will have to live with it a good many years. It will either lessen your burdens or add to them. Water is needed every day of the year. The Aermotor was made to pump it for you. It has never failed to carry out the purpose of its creator. The first Aermotor distinguished itself by running when all other mills stood still. Each one of the succeeding hundreds of thousands of Aermotors has done the same. The reason for this is simple enough. The Aermotor was the result of design, not accident. It was made for a purpose, and that purpose was well understood in the beginning. Every requirement was carefully determined in advance. Every strain was accurately estimated. Every pound of material was arranged to the best advantage. Simplicity was added to strength. Each object to be accomplished was aimed at directly. There were no unnecessary parts, no wasted material, no stupid devices.

An Aermotor once properly erected, requires no adjusting or tinkering. This is the result, not only of perfect design, but of proper construction. The best material for each part has been carefully determined, and only the best is used. Much of the material in the Aermotors is specially made for that particular purpose. The very stiff sheet steel used in the sails is made only for the Aermotor Company. Even the Babbitt metal used in the bearings is specially made to meet the peculiar requirements for a windmill.

THE AERMOTOR COMPANY KNOWS WHAT IS BEST IN A WINDMILL

It is not a difficult matter to make a windmill. They have been made for centuries. It is, however, a difficult matter to make the best that can be made. To do that requires peculiar skill and ingenuity. The Aermotor Company, alone, has shown remarkable originality or genius in the business. It has had more experience than all others combined in making steel windmills. Isn't it fair to conclude that it knows what is best in a windmill? The best costs no more than an inferior imitation. If you buy anything less than the best you do not get the most for your money.

But the best may be a dismal failure if poorly erected. The erector must know how to plan the job, get the parts together properly, and detect the least thing wrong with its working. Aermotor dealers know how. They are selected for that reason. Most of them have been handling the Aermotor from the beginning. They are men of trained judgment and mechanical ability. To get the best out of the best mill, one of them should erect it for you.

WRITE FOR OUR WINDMILL BOOK

We have a book that tells all about windmills. It begins with the Dutch wind mills of 1400 and ends with the Aermotor of 1903. It contains 125 pictures to show you what windmills should do and what they should be. It tells all that invention has done for them. When you read this book you will know all that anyone knows about windmills. You will know the right kind from the wrong kind and know all the differences. To avoid a mistake don't buy without reading it. The book is free. Simply write for it.

AERMOTOR CO., 1228 12th St., Chicago

THE PRACTICAL FARMER.

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THE KEYSTONE TO SUCCESSFUL FARMING

Published Weekly By
THE FARMER CO.,
Market & 18th Sts., Philadelphia, Pa.

AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

The Advantages of Having Wagon Scales on the Farm.

The writer was talking with a good farmer the other day at an Institute. He spoke of raising a certain number of bushels of corn per acre. I asked him whether he estimated the yield, or measured it, or how he got at it, as it was two or three times as large as most farmers have. "Oh," he said, "I have got scales and the loads of corn were actually driven on them and weighed, so I know just what the crop was." Then I asked him some questions. "How long have you used scales?" "About three years now." "What kind have you?" "Those made by the Osgood Scale Co., of Binghamton, N. Y." "Where are they?" "In one end of a building that I use for wagons and tools. I fixed the place on purpose, so I can drive right through. There are doors on each side that close up tightly. The space is just large enough to let a load of hay through. I do not like to have them out of doors. My brother tried that way. In the winter they are often clogged with snow and ice, and, of course, they will not last as long as under cover. I can keep a roof over them cheaper than to replace them, or repair them. Then they are always in balance and ready. I run my wagons in this shed when we are not using the scales. The scale platform is level with floor. Thus the building serves a double purpose." "You did not weigh all of your corn, did you?" No; we weighed a measured acre where it was poorest, another where it was best, and then one that was as nearly an average as we could pick out. The weight of poorest and best proved to be about double that of an average acre. So we considered the product of an average acre as a fair average of whole field." "What good does it do you to know what the yield was?" "Well, for one thing, it encourages us to try and do better each year. My sons and the hired men are all interested, as well as myself. We have had one man several years and he takes as much interest as I do, seemingly. The whole family were waiting impatiently when we added up the weighings of corn to see how much we had gained. In this one way it has been worth more to my boys than the whole outfit cost. And it is the same way when we weigh the beef cattle and pigs. All are interested in making a better gain than ever before. I encourage the boys to weigh them often, and if the gain is not satisfactory, to read and study and try and find out what to feed and how to make them do better. The boys have weighed the manure made on our new cement floors and compared it with the much smaller amount made per head in our old barn that is not cemented yet. And they have been figuring out just how much we are losing. When we sell cattle, or pigs, they are weighed at home on our scales and sold at that weight, as a rule. This is the way I do; I get the best price offered I can from buyer. This will be weighed at depot, of course. Then I stick for home weight. As our stock are good I usually get it, in time. This is virtually giving us a little higher price than others get, and still it makes no trouble, as all get nominally the same price per pound. Stock shrink in driving or hauling to cars. And then we are sure the weighing is accurately done. Really, our scales have paid for themselves several times over already. We never take a load of small grain to market without first weighing it at home. We never bring home a load of coal without weighing it on our scales. Dealers are usually honest, but this check on them, of scales at home, helps us about getting accurate weighings, and rogues are caught and errors detected. If we never said a word, the moral effect of the simple fact that we have scales at home and use them would make them a profitable investment."

Pig Questions.—Pasture, Shelter, etc. —Wm. S. Perigo, Boonville, Ind., H. K. Hall, Moores X Roads, and Geo. H. Brackman, Lincoln Falls, Pa., ask a number of pig questions which are answered briefly below. The most profitable crops for pigs are clover and corn. The clover makes the best of pasture and the pigs should have some early cut clover hay in winter. Cut it just as it is coming into bloom. But in addition to this the pigs want some food containing more growing material than corn, such as wheat middlings or shorts. This matter was fully discussed in the P. F. for Jan. 24th. You speak of having a permanent pasture. It is well and good to have a pig lot kept in permanent grass on which they can run, unconfined every day in the year. But they should have a fresh pasture every year, aside from this permanent one. This change of pasture seems necessary for pigs and sheep, for best results as regards health. A clover pasture, used one year, and then plowed for corn, while the pigs run on another clover field, is the safest and best plan I know of. They do not eat on grass pasture, practically, only during winter season and early in spring before clover is ready. These clover fields, for convenience, should be alongside of permanent grass pasture. Dwarf Essex rape makes good pig pasture, where it will thrive, but not quite as good as clover. I should sow something with it; in the North perhaps barley; a little further South one might try oats. Sow at two or three different times to make a succession of fresh feed. Always turn pigs on when rape is small. They will not eat it after it gets large. If it gets the start of them mow it off and let it start up again. I cannot say just how far South the rape will do well, but sowed early, or late, so as to make fall feed, it may be quite successful. Try all such new things in a small way until you know what you can do with them. If by "hog house" you mean a place for pigs to sleep in, by all means make the floor of cement, using Portland only, and having surface rough, as has often been explained. One should have no other hog house on the place, except some little individual portable farrowing pens, about 6x8 feet each, unless you have pigs come in cold weather. These should be put at different points in permanent pasture. The door of pig house should be open always so pigs can run out in pasture at all times. This helps make them healthy. I would not advise a portable house, to be used on different fields you pasture, as you suggest, rather a permanent room for them to sleep in, on permanent grass land, as mentioned above. Let this be at least 7 feet high and warm in winter and large enough so each pig can have room to lie down comfortably. See that there are windows that let in sunlight. Put in dry, fresh bedding at least once a week, after cleaning everything out. Never feed them in here. Have out of door feeding floor with troughs on it, where sun and rain can keep it pure. Abolish forever the old filthy hog pens and hog yards where mud and filth and food are mixed. Substitute a roomy lot, of heavy grass sod, a clean, healthful sleeping room and an out of door feeding floor that you can keep clean. Have this a few rods from sleeping quarters so when you call pigs out, the droppings will be left before they get on the feeding floor. It is well to make pig house building more than 7 feet high and use room above for some other purpose. This will save roof. Remember this is none of it theory. Mr. Henry has fed his pigs out doors on feeding floor in this way in cold Minnesota for many years. If snow comes, shovel it off. That is better than hog cholera, of which he has never had a case, while pigs have died around him by the hundreds. We have got to learn to give the pigs a better chance for health, or suffer serious loss occasionallly. The laws of health cannot be violated in the care of pigs any more than of human beings, without paying the penalty in time. As to the rooting, Mr. Henry feeds his pigs in such a way that practically they do not disturb the sod. This is one of the hardest things for our Minnesota audiences to believe. They think a hog was born to root. Mr. Henry says that they will not, if they can get all they want without. When it is "root hog or die," that is another matter. First, Mr. H.'s pigs always get a fairly balanced ration to eat. Thus they are healthy and satisfied. There is no craving, for they hardly know what, no internal unrest. He keeps before them at all times, also, a mixture of, say 40 bushels of hardwood ashes and ½ barrel of air-slacked lime, and same amount of sulphur and also of salt. This is under cover where they can eat it at will. Then remember they have abundant green pasture, and pumpkins and seeds of them in season.

Health Hints.—How to Strengthen a Weak Heart. — One of the noted women of this country is troubled with a weak heart. When she exerts herself, even slightly, she is overcome and has to lie down. Therefore she is careful to do almost nothing. She is a friend of mine, and I am particularly sorry for her. She is a very bright woman, but she thinks she inherited this serious weakness and must yield to it. She does practically no work now, just quietly exists. Her muscles are like those of a sick person who has long been confined to the bed. She is thin, weak and feeble, as a muscular being. She thinks it will not do, on any account, to exert herself. To my mind this is all wrong. I would, of course, avoid any sudden or severe strain, or exertion. But as sure as that 2 and 2 make 4, the way to strengthen that heart is to very gradually strengthen the various muscles of the body. It is the only way to do it, too. No medicine in the world will cure the weakness; nor will any amount of rest. Use only, will do it, gradually calling on it to do more and more. I should at once begin a system of regular exercises that would call into play every muscle in the body, but particularly those situated around the heart; that is, in the trunk, shoulders and hips. I would begin in a small way and increase very slowly indeed. Then attend to breathing plenty of fresh air, eating plain food in moderation, chewing thoroughly, bathing, etc. The result would soon be better blood circulating faster. This will eventually help the heart and every other organ as surely as it does the muscles. The great law of life is use, as you have often been told. If any organ is weak, so much the more need of using it, of giving it more to do. But now, a novice starting out in this matter, will be perfectly sure to overdo it at times. One must have the patience that the mother has in teaching the little child. A person as badly run down and weak as this woman, should be from six to eight months gradually strengthening herself by proper exercise. Walking in out-door air will be one good form of exercise. If she cannot go more than 10 rods the first time, no matter. Perhaps she can safely add one or two rods each time, and go out twice a day. And all the other advances must be made in the same careful, slow way. The chances are probably 99 out of 100 that regular, persistent work would, in time, make this woman strong and healthy, so much so that she would never know she had a heart, from its troubling her. Other friends have asked advice about this same matter. I cannot tell you better than to make your heart gradually pump more and more good, pure blood all through your system.

One Difference Between a Wagon and a Person.—A reader says he does not agree with my advice to use a weak part more. In his opinion one should favor any part of the body that is weak, and not ask it to do as much. He has the following to say in explanation: "If the back wheels of my wagon were weak I should put less load on them and more onto the forward ones that were able to stand it. According to your doctrine I should put more onto the back wheels, which would surely cause them to break down entirely in time." Thank you, my good friend. But there is quite a difference between a wagon and a person. The only way to strengthen those weak wagon wheels is to take them to the shop and have them repaired. A person is not repaired in that way, although very many are everlastingly trying to be. The human machine repairs itself, if any improvement is ever made. Any weak point must be made stronger by the air we breathe, the water we drink and the food we eat. These are the materials out of which new strength is made. There is only one possible way to get this to the weak point that you want to build up, and that is to use the muscles in and around that point and draw the blood there, which is arranged to carry new materials to any part where they are called for. Of course, a weak part should be favored when first injured. It should never be used to excess so as to cause inflamma-

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tion; but it is only by use, gradually increased, that it can be made stronger. Favor it and it will grow weaker; use it more and more, within proper bounds, and nature will surely make it stronger. It is quite possible to take an organ, or limb, that is considered weak, and that our friend would say should be favored, and soon bring to it more than normal strength. Medicine can never do this; proper use will. The human body is a marvelous machine. You have only to remove the cause of any trouble and it will repair and right itself, with a reasonable chance, if the matter has not gone too far, which is rarely the case.

T. B. Terry.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Fertilizers.—Abram Stull, New Philadelphia, O. — "We have been reading your book, 'Crop Growing and Crop Feeding,' and find it very interesting and instructive. On page 299 you give a formula which reads something like this: 'Phosphoric acid (P205), and so on, also potash (K2 O).' What are we to understand by these letters and figures? On page 12 you say you would use phosphoric acid and potash on wheat. Do you think that in using 300 to 400 pounds per acre, it would be better to drill in before sowing the wheat part of this, and then drill the remainder with the wheat, as it may not be well to drill too much with the seed. We harvest oats about the middle of July. Could we then sow cow peas and get them off in time for wheat the 20th of September? What kind should we sow and how much seed per acre?" Unfortunately we do not at present happen to have a copy of our book at hand, having given the last one we had to a charitable school. You can hardly have quoted the figures following the phosphoric acid correctly, and we cannot tell, until we see the book, what you mean. The figures (K2O) following the potash mean simply that there is that percentage of pure potash or potassium oxide. We may have misinterpreted your figures, but when we get the book again we will be able to explain. We gave the proportions of acid phosphate and potash to be used on wheat. What do you want with a filler? There will be plenty of filler naturally associated with the acid phosphate and potash, for the highest grade of acid phosphate, that from Tennessee, is not over 16 per cent phosphoric acid. Then there will be about 40 per cent. of sulphate of lime, or what is called plaster, naturally associated with this phosphoric acid, and a lot of other things that were in the rock. Then the muriate of potash will have about 50 per cent. of the potash, or K2O, and the other 50 per cent. will be made up of a variety of things that are of no particular use, but which cannot be cheaply gotten rid of. Fillers are only used by manufacturers to reduce the quality of a low grade fertilizer and make the farmer think it is cheap, when he is paying full price for all it has of value, and then paying freight on the filler that is of no use to him. If you buy a complete manufactured fertilizer always buy a high grade article, even though the price is higher than the low grade article, for all that is worth anything in it is less costly than in the low grade. A clay soil tells us nothing about your soil, and it would be pure quackery for us to tell you what you need to apply to it. Take the directions we give in the book, and study the food needs of your soil, for you are the only man who can find out what it needs. As to the application of the fertilizer, we think it would be better, if time allows, to drill all the fertilizer in before sowing the wheat, as it sometimes injures the germination if in direct contact with the seed. If you sow Warren's Extra or the Early Black Eye pea the middle of July you should be able to mow them the tenth of September, and then can disk the land well for wheat. We believe that it will pay you to use these, and sow about one bushel of seed per acre.

Killing Johnson Grass.—F. M. Owen, Sanchez, A. T.—"Is there any practical way to kill brome, or, as it is called here, Johnson grass? It has ruined many an acre of our best land so that we can raise nothing but a poor crop of wheat on it. How many days over nine months is a cow supposed to carry a calf? Will the acid from a copper smelter 40 miles away kill vegetables?" Johnson grass is not a brome grass, and we are not sure what you have. In all probability it is Johnson grass that has come to you from Texas, where it is very common, and where there are men trying hard to get farmers in other sections to buy the seed. The only way we can suggest to get rid of it is to dig out the underground running stems as completely as you can and then pasture the land with sheep so that every shoot the comes up will be eaten at once. Hard pasturing will come nearer to killing it than anything else. A cow may go considerably over nine months or may calve earlier than nine months. It depends on the individual habit of the animal. Acid fumes cannot do any harm at that distance, and we suppose you refer to acids in the irrigation water. How far these will affect vegetation can only be learned by experiment.

Potatoes and an Acid Soil. — E. S. Longanecker, Calla, O. — "My leading money crop is potatoes. As my soil is quite acid I can use fresh stable manure direct on the crop with benefit. I find vegetable matter and manure very beneficial to the potato crop, but make the soil too acid for clover. Sorrel is the great competitor with clover here. Cow peas are not a success, as they do not form nodules. Soy beans are better, but they have not many nodules yet. I am now trying hairy vetch. 1. Which has the most alkali, horse or cow manure? 2. What form of phosphoric acid has the greater tendency towards alkalinity? 3. Will forage crops, rye, etc., draw the excess of acid from the soil? 4. Would reducing the humus tend to reduce the acidity of the soil, or would fall plowing do this, or would plowing in hot weather do it? What are the injurious acids in our soils? Should I experiment with floats, as phosphoric acid seems to be all that my soil needs for wheat. I find that manure does not help me get a stand of clover, but after getting a stand a dressing of manure is a help." Your trouble seems to be that in plowing under vegetable matter for potatoes you have made your soil acid. This acidity is detrimental to the low forms of plant life that cause the scab in potatoes, and also to the forms that enable legume crops to get nitrogen from the air, for none of these microbes will flourish in an acid soil. Potatoes will grow more clear of scab in an acid soil, but the restoration of a weak alkalinity there will increase the crop, and we had rather treat the seed with formalin to prevent the scab than to keep our soil in a condition in which the clover microbes will not thrive. No crops that you can grow will decrease the acidity. Liming is the only way to cure it. We suppose that you follow potatoes with wheat. Then give the wheat a dressing of freshly slacked lime, and this will in all probability enable you to get a catch of clover and a good growth, and there will not be lime enough to favor the scab seriously. If there is, then work with preventives like formalin before planting the potatoes. You can reduce the acidity by reducing the humus in the soil, for it is the humic acids that mainly trouble you. But this would be a very unwise course. You want plenty of humus for corn and potatoes, and you can well afford to use 15 bushels of slacked lime per acre to encourage the growth of clover and smother the sorrel. The acid in sorrel does not come from the soil, though sorrel will grow well on a soil too acid for clover. Its acid is oxalic acid derived from the air through the assimilation of carbon by the green leaves. There is no difference that we know in the alkalinity of horse and cow manure. In applying acid phosphate you are using 40 per cent. of sulphate of lime or plaster, which has some little influence on the soil and crops, as well as the phosphoric acid the article contains. No plowing in cold or hot weather will amount to much as a cure for acidity. Heavy applications of stable manure will tend more towards sweetening the soil than making it more acid. But if you know that your soil is acid you should use lime and stick to clover and the best thing you can grow to grow potatoes after. Get more clover through the use of lime, and used in this way the lime cannot do much harm to the potato crop. Spread the lime on top of the ground just before drilling the wheat, and do not plow nor harrow it in, but simply drill wheat right away.

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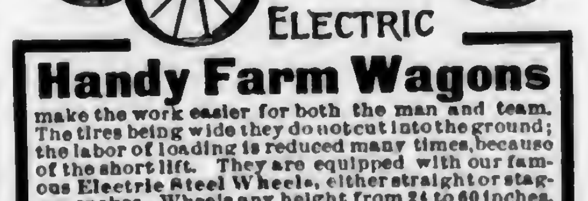

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One-Man Saw.—C. C. Catron, Rural Retreat, Va.—"In regard to R. C. Randall's query, I would say that my experience with the one-man cross-cut saw was not satisfactory by any means. I ordered one back in the eighties that folded up like a pocket knife. The conditions were such that I could pay express and take saw on trial; if satisfactory then I was to pay remainder to express agent; if not, I was to pay express both ways, which I did. It cost but a few cents less than the outfit would if I had kept it. I returned it, as I wore out two hands in one day and had but very little wood sawed. I have bought machines that one man could do two men's work with, but in that case it took two men to do one man's work according to the instructions."

Pottering with Poultry. — R. B. Pusey.—"I was amused at the points made by our Editor in his summary on Topic No. 558 of the Experience Pool. There is nothing 'funny' about the Professor's unprofitable experience with poultry, but rather in the point of view he takes on the whole business. Coming from any ordinary 'Gallant Gallus,' one might suppose it the experience of him who, having read all the incubator literature, proceeds to 'farm' 1,000 hens on one acre of ground, laid off in 'parks.' I have been pottering with poultry for the past eight years, and, according to the Editor, it is high time I was at the end of my rope on a losing business. I do not find it thus. Beginning with the newly hatched chick, I can easily raise enough cockerels and scrub pullets to more than pay for all food necessary for the entire flock. This gives me all good pullets in fall, clear of expense, except labor of raising them. Admit time spent raising them fully covers their value—but I have passed the stage where I expect to get something for nothing. It is now Oct. 1st, accounts balanced and nice flock of pullets and young hens. During coming 2 months we need not expect much of an egg yield, but are reasonably sure of a little more than necessary to cover expenses. But during six months, from Dec. 1st, if stock is properly housed and tended, we may be sure of some clear profit. To come to figures, my flock of 100 pullets and 100 hens, all pure bred S. C. White Leghorns, produced during the month of January, 2,097 eggs, netting me $56.10. Now for expenses; 100 pounds meat meal, $2; 5 bushels crushed corn, $2.50; 1½ bushels ground wheat, $1.20; 2 bushels whole corn, $1; 2 bushels whole wheat, $1.60; 3 bushels screenings, 60 cents; total, $8.90, leaving credit balance of $42.20. This, with about $25 from December, gives me about $72, and season not half over. Now, the point I wish to make is this: If all of us could grow seed wheat, with every bushel engaged at a fancy price, some 24 months (or was it years) before harvest, then we could profitably discard the hen, but is it practical to do so when the average farmer must depend on the general market with corn at 45c.; wheat at 80c., and oats at 35c.? While the Editor's reasoning is likely all right for parties with little range, I think it is misleading to most readers of the P. F., who, having medium to large farms are really in a position to make poultry (or chickens) pay. Of course, I fully believe success depends on getting the right variety of birds. I find S. C. White Leghorns 'the thing,' producing as they do, white eggs and lots of them. True, you can't get as much meat off the carcass of a Leghorn as you can off a Plymouth Rock, nor can you draw as heavy a load with your high-bred trotter as you can with an ordinary draft horse. We all find that we can't get something for nothing, and we can't get all the good qualities in one animal. Decide if you want to produce eggs or meat, get the variety best adapted to your purpose, don't 'piddle' with them, but give them good, sane treatment as you would any live stock, and let the other fellow buy the 'general purpose' fowl, or whittle the groceryman's goods box as he prefers." The Editor was only speaking for himself and his own conditions. For instance, the bill for feed our friend gives would be double the amount here, and while he shows returns of $47 for January, he makes no allowance for his own labor. If he devoted his entire time to the chickens the result was not much to boast of. If simply a part of the farm work and the food was furnished by the farm, then there is a very good profit shown for a winter month. We are doubtless all fitted for some specialty better than another, but we can make far more out of our garden than we could with the same area of land devoted to chickens. Someone else will enjoy the care of the chickens and make it a relaxation from other work, and the grain farmer can doubtless feed a good many chickens without counting the cost, at town rates for feed, and make them a very profitable adjunct. The Editor never meant to suggest that no one should keep poultry simply because it does not suit him to do so. We would not discourage anyone who is so constituted as to be able to give the necessary attention to petty details from engaging in poultry raising. There are doubtless men who can make poultry pay as an exclusive business, and this Editor is of the opinion that they richly earn all they get.

Hen Manure.—Will A. Utt, Garrison, Texas. — "What per cent. of nitrogen, potash and phosphoric acid in common chicken manure is available for plant growth and how much lime? Where can I buy seed of Wood's bush lima beans?" Fresh hen manure contains 1.1 per cent. of nitrogen, 0.56 per cent. of potash, 0.85 per cent. of phosphoric acid, and no lime, as a matter of course. You can buy Wood's bush lima bean from Wm. Henry Maule, Philadelphia.

Fertilizer for Tomatoes. — F. E. Loomis, Rhodesdale, Md. — "Will you give me the very best formula for a complete fertilizer that will give a strong growth and hasten the ripening of cold frame tomatoes? Soil is a sandy loam." I would use for tomatoes a mixture of 1,000 pounds of acid phosphate, 600 pounds of tankage or fish scrap, 200 pounds of nitrate of soda and 200 pounds of high grade sulphate of potash to make a ton. Use 500 pounds per acre.

Farming in Arkansas. — R. W. B., Gum Springs, Ark. — "I have bought about 20 acres of level, sandy upland that will make one bale of cotton on three acres. I propose to sow oats and pasture them off with hogs and steers, then drill Whippoorwill peas. Let them mature and pasture them off with hogs and steers; then break and sow rye for winter pasture for calves and pigs. The main object is to improve the land." If you had sown the oats last fall with a fair application of fertilizer, you would have gotten some pasture of value before time to sow the peas, but sowing oats in the spring will give you less pasturage. You will find that while peas will help you to get nitrogen and organic matter in your soil, they will need on your sandy land, a good application of acid phosphate and potash for the best results. Your idea of hogging down and feeding the peas is very good, and following this, the winter pasture of rye ought to be very fine and the land should increase in productiveness under such a mode of treatment.

Farming in Western N. C. — H. C. Reeves, Canto, N. C.—"When and how shall I seed corn land to crimson clover and what kind of seed to sow? I have a clover sod on hillside to plow for corn; should I subsoil this to keep it from washing? I have a piece of land in wheat which I want to prepare for pasture, should I sow grass on the wheat in March or April or prepare the stubble and sow in August for best results? I want to buy a one-horse weeder for land partly hillside; how would Keystone adjustable weeder answer?" In your mountain section crimson clover seed should be sown at the last cultivation of the corn. When the ground is still fresh sow 15 pounds of seed per acre, and get the Delaware grown seed from Wm. Henry Maule, Philadelphia. If the ground which you intend putting in corn is fairly dry when broken a subsoiling would be of advantage. It would have been better to have broken and subsoiled this land in the fall, and to have sown rye upon it as a winter cover and then a moderate plowing in the spring, turning under the rye and preparing the soil for corn. If the ground is at all wet, while the suface may be dry enough for plowing, we would not use the subsoil plow. The land now in wheat and which you wish to get in grass for pasture, we would prefer to prepare after the wheat is cut and get the land in good order and seed heavily with a mixture of grasses in August or September. The adjustable Keystone weeder will answer your purpose as well as any we know of.

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HON. H. L. DUNHAM.

An interesting letter to our readers from Hon. H. L. Dunham, Ex-Mayor of Dover, N. J.

Dover, N. J., Nov. 12th, 1902.

I had both kidney and liver trouble for over three years. I tried the best physicians in Washington, D. C., Pittsburgh, Cincinnati and Chicago, and regret to say that I received very little benefit until I commenced taking the great kidney, liver and bladder remedy, Dr. Kilmer's Swamp-Root. After taking the first bottle I noticed quite a change which satisfied me that at last I had found the right medicine. I continued on until I had taken four bottles, by this time I noticed such a marked improvement in my health, in every way, that I felt satisfied I was cured. But to be positive beyond a question or doubt, I was in Chicago during July, 1902, and went to the Columbus Medical Laboratory, No. 103 State St., and had them make a thorough and complete microscopical examination which showed my kidneys and liver to be perfectly well and healthy. I have their written report in my possession, signed by the doctors of the above Medical Laboratory, which is recognized as one of the best in the country.

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H. L. Dunham

Ex-Mayor of Dover, N. J.

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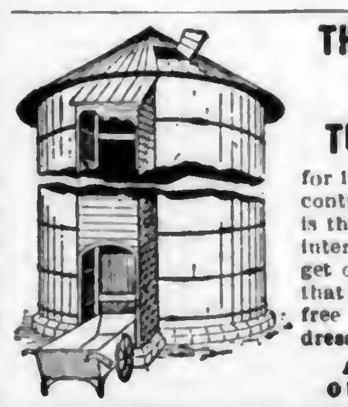

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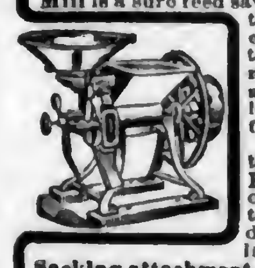

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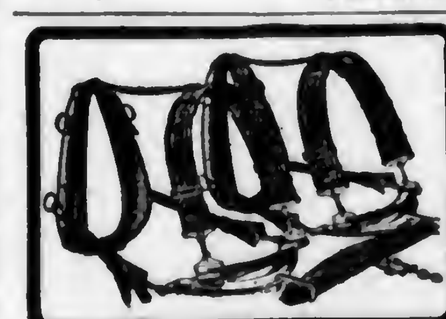

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The Best Beef Breeds.

H. STEWART.

It is one of the most important questions that arise in considering the matter of beef rearing on farms, which of the many breeds is the best for the purpose. This is complicated very much by the association of the milk product and the usefulness and profit of the dairy; for it seems to assert itself that no farmer can make a satisfactory profit from dairy stock alone. What is now most wanted is the breed of which the most profit may be made from its milk, and yet the calves—not desired for the dairy supply—may be made into beef with the most profit. There can be no question as to the most desirable breed for this use. It is apparently fixed and settled by nature, assisted by over a century and more of the most skillful training, that the old Shorthorn as it was at first, is still the best all-purpose breed of cattle. When it first came into general notoriety by the publication of the most entertaining history of that breed by Thomas Bell, the friend and companion of Mr. Bates—to whom the first improvement of the breed was due—it was by no means rare to find cows whose milk product was twenty-six and a half quarts at one milking, and from that down to nineteen and a half, and eighteen quarts was not thought anything surprising; while twenty-four pounds of butter a week was by no means rare; and these great products were made on grass alone! There were none of the present stimulating feeds in existence in those days; but there was the very best of grass pasture, and this was all! On this feed a common product of the best of those old cows in money value was ten dollars a week. Not even corn was then known in England, and the cows, after living for ten to fourteen years made a thousand pounds of beef; and the four-year-old steer made twice as much, 140 stones of 14 pounds each, being a common product of the meat. This ancient history surpasses anything done in cattle feeding at present, but yet there are many of them still existing, which after yielding an average of twenty-four quarts of milk a day for two or three years, during which they are kept solely for this purpose in the milk dairies which supply the city of New York, they are sent to the butcher without any further feeding, being in prime condition all the time; and then make twelve or fourteen hundred pounds of the best of beef which goes to the best purchasers in the city, on account of its fine quality.

Of course, all this is not done without adequate feeding. But this is the very keynote to the situation. Nothing pays but the very best work in this strenuous age. And this applies to all the farm work, even the products of the fields, the meadows, and the pastures. We are apt to think that this is not a good grass country. But this is all wrong. Six tons of hay to the acre have been made by one farmer in New York. I have made twenty-four tons of timothy and clover hay from eight acres of land, without manure on it, and not yet free from stumps, and have made one acre of land, worked on the soiling system, feed one cow the whole summer, and over half the winter. And while the averages of products are very inadequate to the profitable culture of the land, yet there are sufficient instances of great products to prove that crops here may be made to yield as much as anywhere else in the world. Indeed it is the feeding of cattle that makes the great products, and high value to the land, that are common, everywhere, in well farmed localities, and this simply because this feeding leaves behind it a great supply of manure by which great crops are made. In fact, we may go anywhere in this great country and we shall find the most productive fields and the biggest barns filled, precisely where the most and the best cattle are fed; and everywhere we find the old Shorthorn cattle blood predominates in the cattle that are fed, in these fields and barns. Combination is the present fashion. Every product possible is made from every material. Nothing is wasted. And the economy, too, is applied to the character of the product. The best has been always found to be the most profitable. It is also true that every product, especially those of farms, is nowhere, and never, wanting a profitable market. At the same time the farmer has this advantage over every other producer. This is, that the more his farm produces the more productive it becomes. Every increased crop grown under scientific culture, leaves the land better than before; and it is especially applicable to the feeding of cattle, whether it is carried on as a sole product of the land or in any other convenient way. The custom of buying a few head of thin cattle, or a lot of sheep, by ordinary farmers for the purpose of feeding them for sale on the spare products of the land, with a crop —preferably grown for that purpose, and with some help by some purchased concentrated foods, is nothing new. It has been the habit of English and German farmers for many years, and scores of thousands of our thin beeves are sent across the ocean every year, especially to meet this demand of them. It is a good plan in business of every kind to learn what one's competitors are doing, and do the same. And the fact is, that in every other civilized country it is the habit and business, and has been so for years back, to be always feeding some lean cattle bought for the purpose for the market, thus using up the surplus roughness and buying our corn to help these. If farmers across the ocean can do this and make a profit, and besides, pay high rents on their farms, why is it not a sure and certain thing that we may compete with them in this same business; and every year feed as many head as may be possible, by growing some special feeding crops for this use. Still more, should not every calf be saved and reared in the manner recently described, and instead of being sacrificed for no profit, be saved and reared, and fed, if not on home grown foods, then on the best that may be procured? But it is best to lay out the farm work so that some grain crop of such kind as has been mentioned in previous articles, or at least some special crop for roughness, as fodder corn or silage, or cow peas be grown, or anything by which some culture of the land may be given, be grown, and with manure made by this feeding, this same land the next year may give twice, or three or four times the quantity of produce ever before grown on it. This is a simple and plain proposition; but it is a practical one, and it has most important results for those farmers who accept it as a rule for their business.

Macon Co., N. C.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 1016 Davis St., Evanston, Ill., who has editorial charge of this department. All inquiries requiring answer by mail must be accompanied by a fee of $1 each.

Tumor. — Garget. — Last October I bought a heifer with first calf. Noticed at first milking a small lump in one teat. About a month ago we noticed, after the milk stood over night, a purple tinge on top of cream, and a sediment at bottom of milk. There is no sediment now, but the purple tinge has not disappeared. Also have a Jersey five years old, that has one quarter of udder caked very hard, but not tender; has been caked since October. MRS. TINA COLLINS.
Albany, Ore.

1. There is a fibroid tumor or polypus in the udder, which could only be removed by a delicate operation. Irritation of this growth is the probable cause of blood tinge in milk. Give her an ounce of hyposulphite of soda three times daily in drinking water or soft food. Stop feeding beets and substitute ground oats, bran and a little corn meal. 2. The cow will give you lots of trouble at next calving, as the rest of the udder will likely become inflamed. Give her very spare diet until calving time, but let her have plenty of exercise. Keep bowels open with bran mashes. Give her a pound dose of epsom salts at calving time and follow with half-ounce dose of fluid extract of poke root twice daily in a little water, after calf comes. At that time bathe udder well three times daily with hot water, then rub well with equal parts fluid extract of poke root and soap liniment. At present rub the affected quarter of udder twice daily with an ointment composed of one part of iodine ointment to three of lanolin.

Warbles.—1. I have a lot of 500 to 700-pound calves that I raised last summer, and I find they have a great many grubs in their backs. Is there anything I can do to get them out or help the calves in any way? 2. Also have a good 4-year-old mare that stuck a nail in her hind foot in December, 1901. It was not pared out as well as it should have been at first, so she went very lame and came near dying, but finally got over it by the whole frog rotting out. Did not begin using her until August, 1902. Goes a little stiff in that leg yet. 3. Have a mule with little soft puff on inside of hock just above joint. W. H. NEAL.
Tuckers X Roads, Tenn.

1. Squeeze out ripe warble grubs by placing a nut key over each bunch and pressing hard. Destroy the grubs or they will hatch out flies to carry on the mischievous work. Apply a little mercurial ointment to smaller warble

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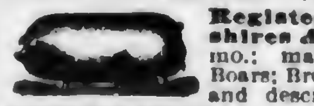

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Please send without cost to me, a plan for finding a cash buyer for my property, which consists of ....
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in the town or city of ....
County of .... and State of ....
and which I desire to sell for $ ....
The plan is to be based upon the following brief description of the property ....
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Name ....
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With a view of buying, I desire information about properties which correspond approximately with the following specifications.:
Kind of property ....
Size .... State ....
City or County or part of State preferred ....
The price must be between $ .... and $ ....
I will pay .... down, and the balance ....
....
....
....
....
Name ....
Address ....
....

bunches, but separate calves in that case so they cannot lick off the ointment, which is poisonous. Strong brine is also fairly effective. Some puncture the grubs with a large needle. Feed the calves generously on ground oats, bran and dried blood meal. 2. A ringbone has formed. Clip hair from hoof head and blister once or twice a month with cerate of cantharides. 3. Rub the enlargements once daly with mercurial ointment and lanolin, equal parts.

Precocious Lactation.—I have a mare, now with foal, due March 5th, and occasionally notice milk running out of teats; has been so for several months. Would be pleased to know the difference between the following breeds of horses: Clydesdale, Percheron and Shire (Normans, we call them), and which you think best suited to drop on native breeds for general purpose horses. S. W. WOODWARD.
Owl Hollow, Tenn.

The mare is naturally a free milker, and it is evident that she is getting too much nutritious food for the work she is doing. Merely cut down the feed and increase the work or exercise. When foal comes accustom it early to eat a mixture of crushed oats and bran, and gradually reduce food of mare until milk tends to dry off, when foal may be weaned without difficulty. After weaning it is well to milk out part of the mare's milk night and morning, for a few days, and rub the udder with an ointment of one part camphor and seven parts lard. At same time feed her dry hay alone until milk dries off, and there should then be no difficulty with her udder. The other questions asked should go to the Live Stock department.

Urinary Trouble.—Can you tell us what is the trouble with some of our cattle? The calves have hay and rough browse through the winter. One was taken sick about a month ago. First bloated and did not pass any manure for several days and seemed to have great trouble in making water. Kept this up for three weeks then it died. When it was very bad its breath would come in short puffs. We have one now that acts in a similar manner; have lost several; always in the winter. SUBSCRIBER.
Burnt Ranch, Cal.

A post mortem examination should be made in all such cases, but it seems certain that the animals suffer from constipation and also from difficulty in urination. Both are associated with the evidently erroneous manner of feeding. In the future see to it that succulent food of some sort is added to the coarse fodders, and that a grain ration is provided. It is unsafe to feed young animals nothing but coarse, innutritious food, and it certainly is not profitable to so feed cattle. The urinary trouble is doubtless due to the presence of too much lime in the drinking water, but it may also come from the feeding of alfalfa hay as an almost exclusive ration. Little can be done after an animal becomes sick, but no such cases need appear if the bowels are kept open and the strength and vitality kept up by grain rations.

Weaving.—I have a yearling filly mule that is a weaver. Is there any remedy for her? J. B. W.
Tuckers X Roads.

As this is a nervous habit, it is very difficult to overcome, and indeed generally proves incurable. There is a chance, as she is so young, to change the habit by tying her from side to side in the stall so that she cannot weave. She should have a narrow stall for herself during the day, and be turned into a large box stall at night with the usual feed of hay to take up her attention. Better keep her away from horses.

Sick Ewes. — Will you please tell me what is the matter with my sheep? I have lost nine and have another sick. They are taken sick a few days before they should lamb, and die in from two to four days in a great deal of pain. One fine ewe was down three days; we cut her head off and at the same moment cut her open and took three lambs from her; one died in about three hours; the other two are doing nicely. She seemed to be healthy inside and in sawing her head open could not find grubs. E. THOS. MASSEY.
Massey, Md.

There is nothing in your description to indicate cause of death, but from experience with ewes we incline to believe that death is due to derangement of the organs which have become constipated by coarse food. It would be well to simply change your method of feeding and management. See that the ewes live out of doors just as much as possible, and feed them some succulent food, such as silage or roots. Also give them a mixture of one part crushed oats and two parts coarse wheat bran. If another case is experienced give at once four ounces of epsom salts in a half pint of warm water and follow with stimulants such as a tablespoonful of whiskey and ten drops of fluid extract of nux vomica two or three times daily in a little water, as a drench. Also give rectal injections of soapy warm water every three or four hours until the bowels move freely from the dose of salts.

Lameness. — I have a valuable mare which, about four weeks ago, I found in the stable, lame. The part affected is just below the knee joint on the inside of left hind leg. In a day or so she got better and I rode her about a mile pretty rapidly, the next morning she was worse than ever. F. M. WORKMAN.
Laings, O.

You do not state age of mare, which is of the greatest importance in such cases. If she is quite young, under five years, then the cause of this lameness may be splint, for splints sometimes come on the hind leg and cause great lameness. The history of the case scarcely indicates spavin. On general principles it would be advisable to clip hair from part and blister with cerate of cantharides twice a month, according to directions so often given here.

Hemorrhage. — I had a sow that had been pasturing on ground peas and cow peas since October 1st, 1902. She dropped 11 pigs six weeks ago, and two weeks back she was taken lame, as though she had rheumatism; and had scarcely any appetite. Was sick two weeks then died. On examination I found a clot of blood the size of her maw, which was formed between the leaf lard and her left side. Y. O. MATTHEWS.
McDonald, Ga.

We can give no explanation for the presence of the clot of blood other than a kick from a horse, or some similar bruise. It is apparent that a blood vessel must have been erupted. This may not be the cause of the lameness of the other pigs, so that a thorough examination should be made to see if they have sore feet or swollen joints. The latter swellings might be due to rheumatism, so that care should be taken to keep the pigs in a dry, sunny place rather than in any dark, damp basement barn or other place of this sort. Write again if we can be of service after you have made a more thorough examination of all of the circumstances and conditions connected with the trouble.

Tumor.—I have a cow that has a hard lump under her jaws about half way between the end of her nose and throat. It seems to be fast to the hide but loose from her jaws. She seems in every way perfectly healthy. Also had a couple of calves to die; one we found dead, and supposed it to be blackleg; the other seemed to be dauncy in morning and died same evening; before it died it would grind its teeth as in chewing, and frothed at the mouth. On examination after it died, found the blood to be very dark and half of the heart soft. F. B. HALLER.
Tyrconnell, W. Va.

1. The enlargement is apparently a tumor or induration of a gland, and the best treatment would be to have it cleanly dissected out and afterwards treated as a common wound. If you cannot have this done, then cut deeply into centre of the enlargement and insert a small quantity of corrosive sublimate rolled in wet cotton batting and retain it by plugging with oakum. 2. Cause of death of calves cannot be told from your description. The one that frothed may have died in a convulsion induced by indigestion or impaction of the stomach or bowels. A hair ball may set up such symptoms. The dark color of the blood might simply indicate non-oxygenation from stoppage in circulation. Write again if you can throw further light upon the cases mentioned.

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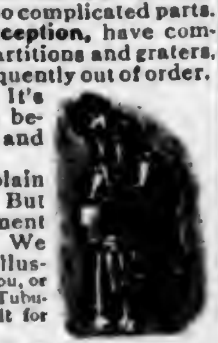

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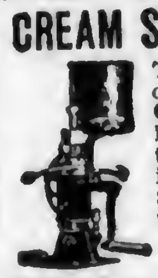

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THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

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Talks on Timely Topics.

Making the Most of Choice Seed Potatoes.—Our standard varieties of potatoes are all the time changing. Varieties that were leading market sorts 20 years ago are hardly known to the younger generation of farmers today. Thus it was with the Burbank, the White Star, and others. New sorts come to the top, making it necessary for us to be on the watch for the better, newer sorts all the while, and to test many varieties. Usually seed of the promising new ones is high for a number of years, yet we must have them. It behooves us, however, to make the best use of the high-priced seed. The Freeman, years ago, was sold the first year at $3 per pound, and the purchase, by one party, was restricted to three pounds, I believe. For Carman No. 3 I paid $10 for the first bushel I bought. In such cases, I invariably try to make the seed reach as far as possible, and I have usually resorted to the sprouting method, planting halves of the tubers in a hotbed, or on the greenhouse bench, much in the same fashion as sweet potatoes are planted for "slips." The sprouts when 4 or 5 inches long (from the seed potato) are pulled and potted off, or planted in boxes or flats like tomato plants, and in due season planted out. A reader gives me his method of treating choice seed potatoes, showing what can be done with even a small quantity. He writes as follows:

"Last spring I ordered of Wm. Henry Maule, a pound each of Thoroughbred and Sir Walter Raleigh potatoes. I exposed these (7 potatoes in all) to the light in a warm room, and they developed short green sprouts. At planting time I cut the potatoes so as to leave only a single sprout to each piece of potato. This often made it necessary to divide the eyes into more than one piece; indeed, most of the eyes were divided, and some of them that had not sprouted, I divided into five or six pieces if there was enough potato about the eye to admit of it. I planted them at a uniform depth, covering with fine dirt. Two sprouts, accidentally broken off, I planted in a flower pot in the window, and later removed them to the hotbed and after they had gotten well started, to the open ground in the garden where they produced two fair hills of potatoes. The other potatoes were planted in an adjoining field with my other potatoes. Nearly every piece grew and all summer they could be distinguished from the other potatoes by their vigorous growth and healthy foliage. I took a little extra care of them. From the one pound of Thoroughbreds I now have in my cellar three bushels and a peck besides the potatoes from the two hills in the garden, which we ate. The Sir Walter Raleighs didn't make so many hills, but I dug two and a half bushels of magnificent potatoes. Five bushels and three pecks of potatoes from two pounds of seed, besides nearly a mess from the two sprouts in the garden, surely is doing pretty well."

Our friend is afraid that the variety, if treated in this fashion (by close cutting) right along, would finally degenerate or "run out," but thinks that it will be well enough to follow it for a year or two, in order to propagate the variety more rapidly. I believe that with high culture, we might follow the sprouting method continuously for years before bad effects in the direction suggested would become apparent. As long as we can succeed in raising good crops per hill, our methods cannot be at fault, and the vigor of the variety is safe.

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Current Comments.

Small Scale Cannery. — Will you give me some advice about canning fruits and vegetables in tin cans? Also whether it would pay on a small scale, canning what I raise. Where can I get cans and labels?
Winston-Salem, N. C. G. W. WILLIARD.

No, it will not pay. Competition is close, and the margin of profits not such that a person can expect to make money by canning fruits and vegetables on a small scale, unless he should have unusually superior or special market facilities. A neighbor of mine put up a lot of Bartlett pears, making "brandied pears" (probably with cheap whiskey) and sold them to neighbors (in the city) for $10 per dozen cans. But at the current prices of tomatoes, corn and other canned stuff as now found in all our groceries, every canning establishment has to exercise the greatest care and skill in management, make use of all the best machinery and labor-saving devices, and in every way resort to strictest economy, in order to conduct the business on a paying basis. Many canneries do not pay expenses. The small-scale operator has small chances of success against the formidable competition of the large commercial establishments.

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Notes from a Carolina Garden.

During the second week in February we had summer-like weather, and though there was plenty of rain it was warm rain, and the bright sun soon made the soil fit to work. Peas were planted for the second time, the January planted ones just breaking through the ground. We planted several sorts that are claimed to be the very earliest, and we will notice with some interest what difference there is, if any. Fall set lettuce plants in the open ground started to head, and apricot trees were in full bloom, with the plums close behind. The last of the week the weather bureau reported a severe cold wave en route from the frozen plains of Dakota. We hauled leaves from the forest and buried that lettuce, and we shoved the sashes tight at night over the frames where the young beets, radishes and other things are just getting about. The reports coming more certain, we got out our mats yesterday, and covered the glass, and where the mercury stood between 60 and 70 at dawn two days ago, it stood this morning at 20 degrees above zero, and I was glad that I had secured things. But soon after the sun came out the temperature went up by leaps and bounds, and tonight shut in between 40 and 50 degrees, and a prospect for a continued rise.

We have just completed the setting of a new plantation of tea roses. Over 60 varieties sent us by Dingee & Conard in 1901 have been in the nursery rows since, and now we have lifted them and planted for permanent observation and enjoyment. We pruned our big Marechal Neils just before the cold snap and were rather sorry we did, but they do not seem to have suffered any. The wet weather has delayed the planting of early Irish potatoes. Those which I planted in early December are all right and will soon be coming through, after which I trust we will have no more freezes. This one has certainly killed the apricots, but we trust the plums and peaches are still safe. In the flower garden the Narcissus blooms are showing all around. The Bermuda lilies are peeping through and hyacinths are throwing up their spikes. Pyrus Japonica is making the shrubbery gay with its scarlet bloom and the golden bloom of the Jasminum Nudiflorum is making many a lawn bright. The sweet honeysuckle, Lonicera Fragrantissima, while not a very showy bush, perfumes the air for some distance around, but the freeze seems to have taken the smell all out of them. Cape jessamines came through without a singed leaf so far, and we have a privet, which we do not know the name of, that is far away better than the California privet so much planted nowadays. The California privet browns and loses its leaves, but this one never has a discolored leaf. It came without a label, and though it is eight years planted has never bloomed, but has made a dense evergreen bush about four feet high. Its dwarf habit and dense growth, as well as its perfectly evergreen leaves, will make it far more valuable than the California, and its foliage is larger and better than the Amoor River privet, which is also nearly evergreen.

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Points and Pickings.

Seed Catalogues.—It is a pleasure to me to look through the seed catalogues each Winter. I like to keep track of the novelties that are introduced, as well as to make my selection of seeds from the old standbys. The making of the seed catalogues has really become one of the fine arts, and all the resources of printers, and lithographers' arts are used to appeal to the tastes and pockets of those to whom they are sent. I hope every reader of the P. F. is interested in them, for they should be a necessary part of his winter outfit. These thoughts occur to me as I am looking through the pages of the Wm. Henry Maule seed catalogue, which glow with the beauties of colored plates, and delight with the more sober tints of the printed and illustrated pages. Mr. Maule is located in Philadelphia, and he sends his catalogue to P. F. subscribers free for the asking.

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Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Pruning Roses.

A correspondent inquired some time ago if she should prune everblooming roses in spring, having been told, she said, that pruning them she would destroy the bloom. What we of the North term everblooming roses are the teas, Chinas, Bourbons and their hybrids, and these are benefited by a good pruning. There is really no need of more than six inches of the old growth on the bushes to insure plenty of flowers. Unlike the hardier hybrids, they flower from the strong shoots following a good pruning. Here in Pennsylvania the freezings of winter prune the bushes just about right, killing the tops and leaving alive the lower end of the shoots. We then prune back the injured wood, and everything is then in good shape for a nice display of flowers. The reason those of this class of roses are injured is because they grow so late in the fall. From September till frost the growth is rapid. This immature wood naturally succumbs to the first heavy freezing that comes. In localities free from severe freezings, where the wood of the roses is not hurt in winter, the bushes should be pruned. Perhaps not so severely as hard winters do for us, but half of the last year's wood cut away would surely leave the bushes in fine condition for flowering.

Trees for City Streets.

In the City of Philadelphia there is a continual agitation about trees for its streets. Shade is wanted, and some uniformity in the planting of trees, but in spite of all the talk and all the trees planted, practically the city has no street trees. Trees have too many ills to contend with in a city like Philadelphia. The pavements, or sidewalks, of the principal streets are cemented, the street itself probably of asphalt; and then leaking gas pipes vitiate the soil already rendered partly unfit for trees because of lack of fresh air carried down by rains. To add to this, trees of fit character and those unfit, are set as the fancy of the owner of the properties decide. Then a little hole is cut in the cement sidewalk, just large enough to admit the roots of the trees. If there was no gas in the soil and a good-sized hole were cut out for the tree, it would flourish fairly well, as the rains would carry moisture and air to the roots, which they must have. Under the conditions existing in Philadelphia and other large cities today, it is simply impossible to look for trees to thrive. With good soil and a large hole cut out of the cement, say two feet in diameter, trees would grow. It is not the city air, as many suppose, but simply unfit conditions for the root. This is shown by the generally flourishing conditions of trees in city yards. Just as soon as the tree is off the street and in a side yard, it flourishes. There are striking examples of this in many city streets. Trees along the sidewalk are pitiable looking objects, while over the line, in a side yard, will be seen similar sorts in comparative perfection. See that a tree is in good soil, unconfined by close covering of asphalt, cement, etc., and it will thrive in cities, fairly, if not to perfection.

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Horticultural Queries.

Apple Trees.—Will you please tell me what would be your choice of 50 apple trees? Would like one or two early ones, followed by one or two later; majority late fall and winter. Have bought a home, and orchard is played out. What is wrong with pumpkin plants in garden? Grow strong and healthy till they blossom, then rot around the stem, and some beetles bother them and soon die.
Shermansdale, Pa. MRS. J. M. BAER.

I am always diffident when asked to name a list of the best apples. There are hundreds of good varieties, and what may do excellently in one place may not in another. You would find this a good list to select fifty from: Early: Red Astrachan, Tetofsky, William's Favorite and Yellow Transparent. Autumn: Fall Pippin, Gravenstein, Jersey Sweet, Oldenburg and Wealthy. Winter: Baldwin, Ben Davis, Hubbardston, King, Northern Spy, Rome Beauty, Sutton Beauty, Wagener and York Imperial. Mr. Greiner, our authority on the subject of squash bugs, says trapping them is the best way to tackle them. Place pieces of shingle, stones, etc., about the plants, and every morning examine the under side, where the bugs will likely be, destroying them as found. The rotting of the stems may be because of fungus, which would call for spraying with Bordeaux mixture.

Pruning Peach Trees.—"A" says he never heard of pruning peach trees in June, and can find no one else who has. His trees (Michigan) are five years old. Have made remarkable growth. Been heavily pruned each year in March. Never had a cover crop except weeds. Have been well cultivated each year. Never had a crop. "B" says not to prune this year until June, then to prune judiciously. "B's" theory is that trees need a check to stimulate fruit production. Kindly give us an opinion. J. L. B.
Fond du Lac, Wis.

"B" is right. The March pruning is what has caused the remarkable growth mentioned. The harder one prunes when trees are dormant the more vigorous they grow. Let go now and pruned moderately in June, or before growth stops, viz., shortening the shoots a third or so, will no doubt cause fruit buds to form for another season. Five-year-old trees that have been growing vigorously should be showing signs of fruiting, and extra cultivation and winter pruning might be discontinued for the present. In Europe, summer pruning, to induce fruitfulness, is practiced by fruit growers every season.

Pruning Query. — Please give instructions for pruning an orchard that has been badly neglected in this respect. Also instructions how to cultivate. A. M. BAKER.
Fleet, Tenn.

I would cut out many of the branches where they are too thick. Cut them off clean to where they sprout from. Do not leave a stub, or other shoots will sprout from where you cut it off. Cut out all dead limbs or those that have not a healthy look. Cut back some of the straggling shoots you speak of, to bring the trees into good shape. When you cut away a branch or limb, should it be over an inch in diameter, better paint the scar on the tree, to prevent rot. The trees would grow faster if cultivated, but you must not disturb the ground too deep, to tear the roots of the trees. Probably a spread of manure before harrowing would not be wasted. Thirty-year-old trees should be bearing big crops now.

Grafting.—In reply to Mr. H. G. Geiger's question in regard to grafting, I will give the method I have used successfully for a number of years. I have always had best results in using No. 8 cotton chain, such as used by weavers, waxed as described for the No. 18 knitting yarn. Had some experience with No. 18 knitting yarn and found it did not rot quick enough, but finally rotted, as I set deeper than Mr. Geiger did, which he should do. Most propagators in the West use only 2 to 2½ inches of root and 6 to 8 inches of scion set all in the ground but an inch or so, as it is the wish of most fruit growers in the West to get trees on their own roots. Another good wrapping is very thin muslin waxed and torn in small strips when dry. Graft now and pack in moist sand and store in cool cellar—not above 40 degrees—till time to set, and you will find them so well knit together that the wrapping can be taken off if you wish.
Doe Run, Mo. JOHN S. WOOD.

Our correspondent's notes are timely, and will be of much benefit to those contemplating grafting. His plan is the one generally followed by nurserymen in the grafting of hundreds of thousands of fruit stock in the winter season.

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Horticultural Notes.

Bechtel's Double Flowering Crab.—Among the newer introductions in an ornamental way in the line of small trees, nothing exceeds in beauty the Bechtel's double flowering crab. This is a Western introduction, an accidental find, I believe, such as are many other highly meritorious trees. It belongs to the sweet-scented crab section. The flowers are double, light pink in color, large and freely produced. So very large are they that those unacquainted with it who see it for the first time are apt to compare the flowers to a rose, and some have said, "There is a tree bearing roses." It is one of the finest ornamental trees known.

Day Lilies.—Among day lilies one called Funkia Lancifolia is valued for the lateness of its flowers, not blooming until September.

Sweet Williams are still favorite flowers, old as they are. Though perennial, lasting many years, the best results follow the sowing of seeds every two years or so.

The Maximilian Sunflower is a grand acquisition, mainly because of its late blooming, as its flowers are not produced until the last days of October. They appear along the whole upper length of the five to six feet shoots.

Privet Hedge. — If you have privet hedges that have become bare near the ground, do not be afraid to cut them down in early spring. Cut back to six inches above ground they sprout splendidly and soon give a new hedge, green from the ground to the top of the growth.

Drainage for Fruit Trees.—If fruit trees have been set in situations which events of summer prove to be too wet for them, see to the securing of proper drainage before another season goes by. Fruit trees will no thrive where water lies a long time before it gets away.

The Bismarck Apple. — Reports from those who have fruited Bismarck apple say it is of but little value, hardly second rate. This is what might be expected; and, at any rate, why spend money on something new when a hundred kinds known to be No. 1 already exist?

The Pin Oak.—As the pin oak grows its lower branches change direction of growth, and from an almost upright position become quite drooping, giving to this oak a character quite dissimilar to any other oak. It is largely planted as an ornamental tree, because of its many good qualities.

The Moon Flower is still in great demand where a quick growing vine is required. It is not hardy, so plants have to be had from a greenhouse in spring. It quickly spreads, one plant covering ten square feet or more easily, and its white flowers, opening at night, are interesting.

Yellow Climbing Rose.—Aglaia, the yellow climbing rose, disappoints some because the expanded flowers are cream colored, not yellow. But the buds are yellow and are beautiful, especially when the bushes are in a vigorous condition. The flowers are in clusters. Many roses have buds differing in color from the expanded flowers.

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have a reputation backed by an experience of 50 years. We sell plants only, and always on their own roots. Sent, safe arrival guaranteed, to any point in the United States. Grown by our own special methods, they have vigor and vitality. Any one can succeed with them. Send for the
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for 1903, a superbly illustrated book of 172 pages, 5 beautiful colored plates, is the Leading Rose Catalogue of America. It describes nearly 1000 varieties. Tells you all we have learned in 50 years about growing Roses and about all other flowers worth growing. Flower and Vegetable Seeds a Specialty. This great book free for the asking. Grand premium offers.
THE DINGEE & CONARD CO., West Grove, Pa.
70 Greenhouses. Established 1850.

POULTRY.

This department is under the editorial charge of A. F. Hunter. All letters, inquiries and requests should be addressed to him at the Practical Farmer office, P. O. Box 1317, Philadelphia.

Better Poultry and More of It.

A reader of the P. F. living in Maryland, who says he is conveniently near the good markets of Baltimore and Washington, asks how he can make more money in poultry raising; the answer is perfectly simple, "raise better poultry and more of it." There you get the whole thing in seven words, and if we filled the entire sixty-four columns of the P. F. full of poultry knowledge the question couldn't be better answered. In the Jan. 3rd P. F. we quoted a letter of Mr. Bowie of North Carolina, who says he has made money by keeping thoroughbred poultry according to the advice we are giving week by week in these columns, and he adds: "There is no one class in the United States, I firmly believe, that can more easily augment their income than the general farmer, and that by systematic poultry keeping. I write from experience." The Poultry Editor had considerable opportunity to study poultry conditions in Canada last summer and fall, and was strongly impressed with the fact that the Canadian farmers are taking hold of this problem exactly as Mr. Bowie tells us he did, and they are very decidedly augmenting their cash incomes just as Mr. Bowie tells us he did, and in precisely the same way, namely, by raising more and better poultry. It is a simple problem in arithmetic. If ten pounds of poultry meat or five dozen of eggs sold to market fetch a dollar, ten times ten pounds of meat or five dozen of eggs will fetch ten dollars, one hundred times ten pounds of poultry meat or five dozen of eggs will fetch a hundred dollars.

Our Canadian neighbors are being splendidly aided in this augmenting of their incomes by the work the Government is doing to promote poultry raising. At Agricultural Colleges and Experiment Stations eminently practical poultry work is being done to instruct the farmers how to feed and care for their fowls so as to get eggs in winter, and Demonstration Fattening Stations have been established at several points, with farmers in charge of them, to teach the farmers how to fatten their chickens in the best manner, so they will sell for good prices. Not only is the Government doing these things, but commission dealers are sending out lecturers to instruct the farmers in poultry work, and are supplying the farmers with thoroughbred male birds upon a pledge being given to raise an agreed-upon number of chickens next year to sell to the dealer; in some cases sittings of eggs have been distributed also. There is so much activity amongst farmers over there, and so much interest in poultry raising, that large dealers in Liverpool and Manchester (England), have been over to arrange for large shipments of poultry and eggs, and to study the situation with a view to establishing depots at convenient points at which to receive and forward these supplies. Curiously enough the greatest difficulty is insufficient supply! These great English dealers want shiploads of stuff—they want millions of dozens of eggs, and the country can't supply them; the present supply is "only a flea bite" compared to what these English dealers want. Rapid as is the gain in poultry and egg production in Canada it will be years before it can supply the demand that is visible now—and the demand is rapidly increasing, too. The condition is exactly similar with us here in the States; the demand is increasing more rapidly than the supply, hence the steadily higher average prices for poultry and eggs. This steadily increasing demand is evidently to be permanent. The population of the United States is increasing at the rate of a million a year, which means a million more mouths to be fed. The beef and mutton supply is steadily decreasing and people are more and more turning to poultry and eggs as a food supply. But more than all else is the steady increase in public appreciation of poultry and eggs as a food. We believe that in that public appreciation of poultry and eggs is the strongest evidence of steady increase in consumption of those foods, and a steady increase in the demand for them. If the P. F. readers are wise they will meet this steadily increasing demand with an increased supply, and "steadily augment their incomes" by doing so. It is a very easy thing to do; simply "raise better poultry and more of it." The public stands waiting, cash in hand, and will take all the poultry and eggs we can sell it; all we need to do is produce the goods, the great eating public "will do the rest."

◆

Poultry Query.

Killing Roup Germs.—A P. F. reader in Canton, Pa., writes: "Will sulphur fumes kill the germs of roup in houses where roupy hens have been? Is there a better fumigator than sulphur and how used? My buildings are large and numerous, and it would take a large amount of sulphur. If you reply through the P. F. please do not use my name." Yes, sulphur fumes will kill the germs of roup, if you get the fumes good and strong and keep it up long enough, which would not be easy where buildings are large and numerous. You would need to largely stop up the cracks of windows and doors, and keep up the fumes for twenty-four hours. This, you will easily understand, is not easy in so cold an atmosphere as we have in mid-winter, and a difficulty would be failure to reach the germs that have gotten into the earth floor. The earth ought to be taken out for a depth of two or three inches, and you couldn't replace it at this time of the year. We don't know of a better fumigator than sulphur, but would prefer to spray the woodwork and earth floor with diluted "Napcreol," or Sulpho-Napthol, and then whitewash walls (and all woodwork) with hot whitewash. We are very sorry you have got roup into your flocks; it is one of the meanest things to get rid of, and it must be got rid of if you would have healthy flocks. Don't breed from any of the birds that have had roup, or that have ever been sick. Eggs from such hens, if they hatch at all, produce weak chicks, that are poor property!

◆

Fruit Tree Clubs. — The practice of neighbors joining in clubs and sending their orders direct for nursery stock as practiced at the Geo. A. Sweet Nurseries, Dansville, N. Y., with the famous Genesee Valley Fruit Trees, has many real advantages. They will be apparent to readers without enumeration. The company is an advertising patron of ours. Catalogue is free. Consult the advertisement for correct address before writing.

DON'T SET HENS the same old way while A 200 Egg Natural Hen Incubator Costs But $2, other sizes equally as low. Over 125,000 in use. Indispensable to anyone who keeps a hen. Our Patents protected against infringements. Agents wanted everywhere, either sex, no experience necessary. Catalogue telling all about and 25c Lice Formula FREE if you write today.
NATURAL HEN INCUBATOR CO., B43, Columbus, Nebraska.

Choice Poultry.
Light Brahmas and W. P. Rocks. Large early hatch $2 and $3 each trios $5 and $7.50; the best.
J. A. ROBERTS, Malvern, Pa.

$6,000 POULTRY CATALOGUE—FREE!
Has no rival. Lowest prices of fowls and eggs; 40 breeds Turkeys, Geese, Ducks and Chickens. The book tells all. Grandly illustrated, 15 best hen house plans, how to breed, feed, cure disease, etc. Send 10c for postage and mailing.
J. R. Brabazon, Jr. & Co., Box 7, Delavan, Wis.

Do You Want "Barred Rock" Layers?
Strong, Healthy, Nicely barred farm raised stock. Bred for eggs for 10 years. 135 hens averaged 198 eggs each in a year. Ckl. orders booked now Pul., $2. Eggs $2 per 13, $5 per 40, $10 per 100—Incubator eggs $6 per 100, $10 per 200. J. W. Parks, Box 580, Altoona, Pa., Successor to H. F. Cox, Sabbath Rest.

BIG MONEY IN POULTRY
For the Next 30 Days Only, we will mail our fine valuable Poultry Book FREE. Tells you all about poultry, how to make big money with poultry and eggs; contains colored plate of fowls in their natural colors. Send 10c for mailing and postage.
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VICTOR INCUBATORS
Hatch every fertile egg. Simplest, most durable, cheapest first-class hatcher. Money back if not positively as represented. We pay freight. Circular free; catalogue 6c.
Geo. Ertel Co., Quincy, Ill.

WILSON'S New Green Bone Shell Cutter for the Poultryman
Also Bone Mills for making phosphate and fertilizer at small cost for the farmer, from 1 to 40 horse-power. Farm Feed Mills grind fine, fast and easy. Send for circulars.
WILSON BROS., Sole Mfgrs., Easton, Pa.

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when the hens lay. Keep them laying. For hatching and brooding use the best reasonable priced incubators and Brooders — built upon honor, sold upon guarantee,
THE ORMAS
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Send for Free Catalog

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Remarkable Curatives Properties of a Remedy for Indigestion and Stomach Weakness.
Stuart's Dyspepsia Tablets, a preparation for the cure of dyspepsia and the various forms of indigestion and stomach trouble, owes its great success as a cure for these troubles to the fact that it is prepared for disease and weakness of the stomach and digestive organs only, and is not recommended or advised for any other disease.
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Stuart's Dyspepsia Tablets can be found at all drug stores at 50 cents per package.

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Perfect in construction and action. Hatches every fertile egg. Write for catalog to-day.
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UNION LOCK Poultry Fencing
Has been fully tested and found superior to all others. Will fit uneven ground without cutting.
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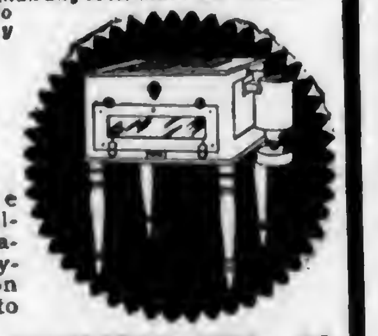

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PEEP O'DAY Brooders and Specialties have stood the test for ten years. They are now made in the Cornell way, at the Cornell factory, by the Cornell crew.
Richmond, Va., Dec. 2, 1902.
Gentlemen:—I have used incubators of various kinds since 1883, and while I know there are other good incubators, I am convinced that the "Cornell" embodies more good points than any other machine. I have no reason to regret my choice.
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Catalogue containing valuable information to poultrymen, free, on application to
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$20 A WEEK Straight salary and expenses to men with rig to introduce our Poultry Mixture in country; year's contract; weekly pay. Address, with stamp, Monarch Mfg Co., Box 1129, Springfield, Ill.

ONE GIRL hatches 1722 chicks. One woman 2496. One man 3632. Many others do equally well with the PERFECTED HATCHING SYSTEM. Beats incubators. Booklet free. F. GRUNDY, Morrisonville, Ill.

The New Regulator on the Sure Hatch is really automatic and direct acting—greatest improvement of years. Don't pay double price for old style machines. Get our book and free trial offer.
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All about them in our 156 page catalogue. Mailed free. Des Moines Incubator Co., Dept. 69, Des Moines, Iowa, or Dept. 69, Buffalo, N. Y.

THERE IS ONLY ONE BANTAM
$9.95 FOR 200 EGG SIZE
$5.50 FOR 50 EGG
SELF REGULATING GUARANTEED
PREMIUMS $4500.00 TO OUR PATRONS
10 DAYS TRIAL
HATCHES EVERY GOOD EGG
BUCKEYE INCUBATOR CO. SPRINGFIELD OHIO.

$5 FOR NOTHING.
We have paid that sum several times for less information than is contained in our grand new book, "How to Make Money with Poultry and Incubators." 8x11 inches, 196 pages. It has 18 special chapters by the best experts in the country covering the entire poultry subject. Over 300 illustrations and photographic views of the Largest and Most Successful Poultry Plants in this and other countries. Tells about the CYPHERS INCUBATORS. It will be sent FREE POSTPAID for the next 30 days to all who mention this paper in writing. Address nearest office.
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The PRAIRIE STATES KEEP AT THE HEAD. More made—more sold—more prizes won than ALL OTHERS combined.
342 FIRST PRIZES WON
Send for catalogue—just out—finest ever issued. Mention this paper.
PRAIRIE STATE INCUBATOR Co.,
HOMER CITY, Pa., U.S.A.

Counting Chicks Before Hatching is not safe unless you have an
IOWA ROUND INCUBATOR
R. C. Bauermeister, Norwood, Minn., got 493 chicks from 503 eggs. He followed directions, the machine did the work, because it was built on right principles and by good workmen. The IOWA has fiber-board case, does not shrink, swell, warp or crack. Regulation and ventilation perfect. Our free book gives more testimonials and full particulars. Everything about incubation free.
IOWA INCUBATOR COMPANY, BOX 228, DES MOINES, IOWA

B. B. B. CONTAINS EVERY PART OF AN EGG, ALBUMEN, YOLK & SHELL.

"What's the matter children?" "We want some B. B. B."
GREATEST MEAT FOOD KNOWN FOR LAYING HENS AND GROWING CHICKS
B. B. B.
Boiled Beef and Bone
Differs from all other poultry food, in that it is made from ABSOLUTELY FRESH MATERIAL. The Cattle and Sheep Heads, Lights, Livers and Beef are cooked, dried, ground, mixed and bagged, all within six to ten hours from time of killing.
GUARANTEED
cheaper than meat; safer than medicine; rich in albumen. It prevents leg weakness, bowel complaint, feather eating and assists in moulting.
50 lbs., $1.25; 100 lbs., $2.25.
Samples sent free.
D. W. ROMAINE, 124 Warren St., New York City.

The Practical Farmer.

FOUNDED IN 1855

Published Weekly by The Farmer Co.
P. O. Box 1317
S. E. Corner Market and 18th Streets
Philadelphia, Pa.

Entered at the Philadelphia post office as second-class matter.

PROF. W. F. MASSEY, Editor.

Philadelphia, March 7, 1903

The Berkshire pigs are rapidly taking the lead, in the South especially. At the third annual sale of Berkshires at Biltmore Farms on the great Vanderbilt estate in N. C., on the third of February, there were sold 61 animals, male and female. The total received for them was $13,542, which is an average of $222 each. This shows that the efforts Mr. Weston, the manager at Biltmore, has made to introduce the best Berkshire blood of England, is being appreciated. This last sale makes a record that has not yet been equalled anywhere if we remember aright.

◆

Maryland Institutes.

In the small State of Maryland there will be held over thirty Farmers' Institutes this winter, many of them two-day meetings. There is a great awakening among the Maryland farmers for agricultural improvement, and Director Amoss has had a leading hand in the work. We have been with him at many of his Institutes in the past and know of what we write. Would that every State in the South could have such an organized effort and as good an administrative officer. Maryland gives $4,000 a year for Institutes. Other States in the South have what the Boards of Agriculture can spare out of their funds, and while their needs are many times as great as Maryland's, the funds available are infinitely smaller, and what work is done is done by those who spare the time from other duties without extra pay. Some day the South may wake up to the importance of his work, and realize what an important part it can be made to play.

◆

Plaster as a Fertilizer.

We notice that the Pennsylvania farmers are again discussing the merits of plaster, or sulphate of lime, as a fertilizer, many farmers declaring that years ago plaster gave them fine results in their crops, but that of late years there was not the same effect. Like experience has been had in New York, where formerly fine results were obtained by the use of plaster. The whole trouble arises, we think, from the mistaken notion some farmers have that plaster and lime are manures, when, in fact, they should be classed largely as reagents for rendering available matters like potash, already in the soil. So long as the supply of this is abundant the plaster has a fine effect, but when there is no longer an available quantity of the potash in abundance a lesser effect is found. In fact the injudicious use of plaster or lime will tend to reduce fertility rather than to increase it, and the user will finally be compelled, as the New York farmers have been, to resort to the real plant foods contained in commercial fertilizers to restore what the reagents have enabled them to rob their soil of. Plaster and lime both have their proper use in improved farming when the farmer realizes their true use in enabling them to grow more abundantly the legumes that restore humus to the soil, and to promote the nitrification of this humus. Neither plaster nor lime will ever make poor land rich, but their proper use in connection with the legumes will tend to the upbuilding of the soil in a judiciously arranged rotation of crops. They are the real stimulants, while commercial fertilizers supply plant food merely.

◆

Farmers and Daily Papers.

About the funniest objection we have noticed to the free rural delivery system is that urged by our neighbor, the Farm Journal. The editor of the Farm Journal thinks that the rural free delivery is a bad thing for the farmer and his children. "It furnishes them with great quantities of daily papers to take up their time * * * besides being a great damage to the rural towns by keeping farmers away from them." This is quoted by the editor from a letter and approved. We would like to know why, if it is an advantage for anyone to keep posted on what is going on in the world, the farmer and his family should not keep posted by reading the daily papers. Is the time on the farm more precious than in other occupations, that none of it can be spared for reading the current news? For our part, we are glad of anything that will make the people on the farm less isolated from the rest of the world, and we believe that the farmer has as good a right to read the daily papers and as much time for it as men in any other line of business. The great difficulty is not that the farmers take too many daily papers, but that they take so few of any kind. The free rural delivery, the trolley cars, the telephone and the daily paper are the civilizing influences of the day, and improvements never go backwards. If the farmer took no paper but the Farm Journal he might be inclined to make the same remark that the Governor of South Carolina is said to have made to the Governor of North Carolina. But the daily and the weekly papers come in to fill up the aching void while they are waiting for the month to get away, and have fairly worn out a paper that comes but once a month.

Farmers are not mere children, to be watched over and guarded against reading what they should not, but are simply like other intelligent citizens able to attend to their own business in the matter of reading as well as anything else. Then the damage to the rural towns by the farmers not going there so much. Is it not better for him to stay at home and read the daily paper than to loaf on a dry goods box and whittle and talk politics? The farmers will go to the nearest town when they have business there, and when they have not it is a very good thing for them to stay at home and read the daily papers.

It has always seemed odd to us that so many men, in writing for farmers, write as though their readers were children and not thoughtful men and women. We always like to assume that our readers are a class of intelligent citizens who are anxious to get new ideas that will aid them in their profession, but who have gotten past the childhood stage and have put away childish things as they have developed into serious life. Hence while we will do all that we can to aid our readers in the legitimate work of the farm, we assume that they know what suits them in their daily life as well as we do, and they will doubtless say to anyone who tells them they should not read daily papers that it is none of their business, which would be perfectly true. The business of the farm paper is to help its readers to better farm practices and more profitable use of their soil. How much time they spend reading papers is none of the business of the farm paper.

Agricultural Journalism.

There is evidence of a tendency on the part of the young men who are being graduated at the Agricultural Colleges to wish to write for the agricultural papers. They have learned so much at college that they are anxious to enlighten the farmers, and to astonish the world with their erudition. It is the common fault with young graduates in every line, and the agricultural graduate is no exception. The young lawyer who has just received his license to practice feels fully qualified to tackle the most complicated question at law, and it takes some years of hard rubbing to make him aware of how little he knew at first. The same may be said of every young man when he first starts out with a diploma of any sort. If the young doctor tries to air his knowledge in a medical journal, he is apt to be brought up with a round turn, and to realize that a professional paper wants experience and not recitations.

We would not discourage any young man from writing on any subject about which he is qualified to write. But there are thousands of men on the farms who, if they have not had the scientific training which the graduate has had, have been all their lives thinking about the problems of the farm, and are quick to detect the theorist who has not "been there." It is the airing of their learning by the raw graduate that gives some of these men their dislike to book farming. The education is all right if the graduate understands that it is not the completion of knowledge, but merely the training that enables him to find what he wants and needs by hard work. The graduate can write very fluently at times of what he has learned from his professors, but he had better not air that knowledge in print till after he has had some years of application in practice. There is nothing that gives a man such an understanding of any matter as the doing of it. After one has done a thing his ideas about how it should be done are apt to be very much changed, and after a few years of practical experience the graduate in agriculture will write very differently from what he would have written as soon as he received his diploma, for by that time he is beginning to realize how much there is yet to be learned about farming, and he begins to feel that he had better learn rather than teach.

We are inclined to make these remarks because we, like all other editors of agricultural journals, often get the effusions of the newly fledged, who would join in the lists before they have won their spurs. Your education is all right, boys, but you ought to understand that it is only teaching you how to find what you want, and that the real education must come through the practical application of what you have learned in the combat with nature, which we call farming. After you have gotten to be somewhat of a veteran in the combat and have had the conceit knocked out of you, you will be able to write in an entertaining and instructive manner for the agricultural press. Then if you can write what people want to read and can help others to better practices there will come a demand for your work. By that time you will be getting gray hairs, for it takes years of combat to fully take the conceit out of a man, for those of us who have been longest in the work know better, perhaps, than those just entering, what a vast field of unexplored knowledge there is yet before the diligent student of agriculture, and we are not so cocksure of anything now as we were when we graduated.

Our Business Corner

THE FARMER CO.,
S. E. Cor. Market & 18th Sts., Philadelphia.
HENRY HARRIS, Business Manager.

Special Advertising Representative
S. E. Leith, New York.

ADVERTISING RATES.

Regular advertisements (agate measurement),
30 cents per line.

Reading notices, set in nonpareil,
50 cents per line.

Special location, 25 per cent. extra.

DISCOUNTS.—On bulk contracts:

250 lines, to be used within 1 year, 10 per cent.
500 lines, to be used within 1 year, 20 per cent.
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On continuous insertions:

Three months (13 times) 10 per cent.
Six months (26 times) 20 per cent.
Nine months (39 times) 30 per cent.
Twelve months (52 times) 40 per cent.

☞ The above schedule of Discounts cannot be combined. No ad. of less than four lines inserted.

All subscriptions are discontinued at the expiration of the time paid for. Renewals should be sent in two weeks before the date on the address label, if you wish to continue a subscriber.

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The Live Business Man.

will be interested in looking over the columns of this number of the P. F. Every line of business which appeals to the farmer through the advertising columns of the agricultural press, is represented in its columns this week. And that by the cream. *Notwithstanding the large amount carried, a number of advertisements had to be left out for which no room could be provided.* It is a suggestion to every business man who receives this number, and who is not represented therein, that he is neglecting one of the channels which will bring him into direct business contact with the live, progressive farmers in every section of the United States. A very large proportion of this advertising comes from firms who have been with the P. F. year after year, and which attests the "pulling" power of an advertisement in its columns. The suggestion is pertinent, and it might be emphasized by the question whether it pays you to be out of its columns.

COMMERCIAL

Philadelphia, Feb. 28, 1903.

WHEAT.—

The market was quiet and without important change. Supplies were small and this checked business. The United States visible supply showed a decrease of 16,000 bushels.

No. 2, red	79 @ 79½
No. 2, Penna. and Del.	80 @ 80½

CORN.—

Offerings were somewhat more liberal and the market declined ½c. owing to the indifference of exporters and a light local trade demand. The United States visible supply showed a decrease of 9,000 bushels.

No. 2	53½@ 54

OATS.—

The market ruled steady under small supplies, but demand was light. The United States visible supply showed an increase of 831,000 bushels.

No. 2, white clipped	43½@ 44

BUTTER.—

Receipts, 1,217 tubs and 1,720 boxes. The market for strictly fine creamery was in good shape and firm at the late advance. Receipts of this description were not equal to the requirements of the trade, and there was a fair movement in the better class of medium goods, as well as in June creameries. Seriously defective qualities, however, continued dull. Fancy prints were scarce and wanted and the under grades were selling more freely at inside quotations.

Best prints	30 @ 31
Firsts, creamery	28 @ 29
Seconds, creamery	25 @ 27
Ladle packed	15 @ 18

CHEESE.—

Receipts, 362 boxes. Supplies were moderate and the market ruled steady, but buyers were operating only for actual wants.

Full cream, choice, small	14 @ 14¼
Full cream, fair to good	13¼@ 13¾
Part skims	10 @ 12

LIVE POULTRY.—

Fowls, hens, per lb.	14½@ 15
Old roosters, per lb.	10½@ 11
Spring chickens, per lb.	14 @ 15
Ducks, per lb.	15 @ 16
Geese, per lb.	14 @ 15
Turkeys, per lb.	15 @ 16

DRESSED POULTRY.—

Supplies of fresh killed fowls were small and the market advanced ½c. under a good demand. Other descriptions were also in small supply and sold fairly at former rates. There was a fair movement in frozen poultry, and prices were well maintained.

Fowls, per lb.	13 @ 15
Chickens, per lb.	14 @ 17
Turkeys, per lb.	17 @ 21
Ducks, per lb.	16 @ 20
Geese, per lb.	11 @ 13

EGGS.—

Receipts, 3,089 crates. There was a further decline of 1c. in prices, due to liberal offerings, but at revised quotations there was a good demand for choice stock, and the market closed steady. Many invoices contained dirty and otherwise unattractive stock, which was hard to move except at buyers' prices.

Nearby fresh, at mark	15
Western, choice	15

FRESH FRUITS.—

Apples, firsts, per bbl.	1.50 @ 3.00
Cranberries, Cape Cod, bbl.	11.50 @ 13.00
Cranberries, Jersey, crate	3.00 @ 3.50
Oranges, Fla., per box	2.00 @ 2.50
Strawberries, Fla., qt.	10 @ 25

VEGETABLES.—

White potatoes, Pa., per bu.	60 @ 70
White potatoes, West., bu.	60 @ 65
Sweet potatoes, Jer., bas.	60 @ 70
Cabbage, per ton	6.00 @ 8.00
Onions, per bbl.	1.35 @ 1.60

BEANS AND PEAS.—

Marrows, H. P., per bu.	2.65 @ 2.70
Pea beans, H. P., per bu.	2.30 @ 2.35
Red kidneys, per bu.	3.00
Green peas, per bu.	1.65 @ 1.70
Scotch peas, per bu.	1.70 @ 1.75

HAY AND STRAW.—

Timothy, choice, large bales	18.50 @ 19.00
Straw, straight rye	17.50 @ 18.00
Straw, tangled	13.00 @ 13.50
Wheat	11.50 @ 12.00
Oat	10.50 @ 11.00

FEED.—

Bran, bulk, winter, per ton	21.00 @ 21.50
Bran, sacked, spring	21.00 @ 21.50

COTTON.—

Middling upland, cwt.	10.05

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle active.

Extra steers	5½@ 5¾
Good steers	4¾@ 5¼
Medium steers	4¼@ 4½
Common steers	4 @ 4¼

CALVES.—

Veal calves lower.

Extra calves	8¼@ 8½
Fair to good	7 @ 8
Poor and common	5 @ 6½
Grassers	3½@ 4½

HOGS.—

Hogs active on good weights.

Fat hogs, Pa., Del. & Md.	7 @ 9¼
Fat hogs, Western	9¾@ 10¾

SHEEP.—

Sheep and lambs active.

Sheep, extra wethers	5½@ 5¾
Sheep, good	4½@ 5¼
Sheep, medium	3½@ 4
Sheep, common	2¾@ 3
Lambs	5 @ 7¼

◆

New York, Feb. 28, 1903.

WHEAT.—

No. 2, red	83 @ 83¾
No. 1, Northern Duluth	89¾

CORN.—

No. 2	60
No. 2, white and yellow	57½

OATS.—

No. 2, white	44½
No. 2, mixed	44

HAY.—

Prime, large bales, 100 lbs.	1.05

BUTTER.—

Creamery, extra	28
Creamery, firsts	25 @ 27
Creamery, seconds	22 @ 24
State dairy, tubs, fancy	23 @ 25

CHEESE.—

Full cream, small, fancy	14 @ 14½
Full cream, large	14¼
Light skims, small, choice	12¼@ 12½

LIVE POULTRY.—

Ducks, per pair	80 @ 1.00
Geese, per pair	1.75 @ 1.87
Fowls, heavyweights, per lb.	16
Turkeys, per lb.	15

DRESSED POULTRY.—

Spring turkeys, per lb.	17 @ 19
Spring chickens, avr'g, lb.	22 @ 25
Fowls, good to prime, per lb.	13 @ 14½
Squabs, poor to prime, doz.	2.00 @ 3.50

EGGS.—

State and nearby	17
Western	19

APPLES.—

Spitzenberg, fancy, per bbl.	3.00 @ 4.00
Ben Davis, fancy, per bbl.	2.37½@ 2.50
Baldwin, fancy, per bbl.	2.00 @ 2.25
Greenings, fancy, per bbl.	2.00 @ 2.75

GREEN FRUITS.—

Cranberries, Cape Cod, bbl.	10.00 @ 12.00
N. Y., choice, per crate	2.50 @ 3.00
Strawberries, Fla., per quart	25 @ 35
Oranges, Cal., navels, boxes	1.75 @ 2.75
Oranges, Fla., brights, boxes	2.50 @ 4.50
Oranges, Fla., russets, boxes	2.50 @ 3.50
Tangerines, Cal., straps	1.25 @ 3.00
Grapefruit, Cal., per box	2.00 @ 3.50

VEGETABLES.—

Beets, N. O., per bbl.	1.50 @ 2.00
Cabbage, Danish, per bbl.	75 @ 80
Cabbage, red, per bbl.	90 @ 1.00
Celery, Fla., per case	2.00 @ 2.50
Celery, Cal., per crate	3.75 @ 4.50
Eggplants, Fla., per crate	1.00 @ 2.50
Lettuce, So., ½-bbl. basket:	
Fancy	2.50 @ 2.75
Fair to good	1.50 @ 2.00
Lettuce, Romaine, per bbl.	3.00 @ 6.00
Peas, Fla., 1-3-bbl. basket	3.00 @ 5.00
Radishes, per 100	2.50 @ 4.00
String beans, Fla., per crate	2.50 @ 2.75
Squash, Hubbard, per bbl.	1.25 @ 1.50
Turnips, Russia, per bbl.	75 @ 85
Tomatoes, Florida, carrier	1.50 @ 2.50
Onions, yellow, per bbl.	1.50 @ 1.75
Onions, white, per bbl.	3.00 @ 5.00
Onions, red, per bbl.	1.25 @ 1.50

POTATOES.—

Maine, per sack	2.00 @ 2.25
Long Island, bulk, per bbl.	2.00 @ 2.25
Jer. and up-river, per bbl.	1.75 @ 2.00
State & West, bulk, 180-lbs.	1.75 @ 2.00
Sweet potatoes, Jer., per bbl.	3.00 @ 4.00
Sweet potatoes, per basket	1.00 @ 1.50

◆

WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.

XX and above	30@32
X	28@29
Medium	30@32
Quarter blood	30@3[illegible]
Common	26@28

UNWASHED (light and bright.)

Fine	19@22
Medium	22@23
Quarter blood	22@23
Coarse	20@21

UNWASHED (dark colored.)

Fine	16@17
Fine medium	17@19
Medium and quarter	19@20
Coarse	17@18

COMBING AND DELAINE FLEECES.

Washed fine Delaine	33@34
Washed medium	30@32
Washed low	30@31
Washed coarse	27@28
Unwashed medium	23@25
Unwashed quarter blood	23@25
Braid	21@22

From the Factory—To the Farm.

BUILDING Implements is our business. We make CORN PLANTERS and CORN DRILLS—DISC HARROWS and DRAG HARROWS—CULTIVATORS—HAY RAKES, FIELD ROLLERS, etc., that are up-to-date, with the latest improvements. Every machine warranted strictly first-class.

We have been in the manufacturing business since 1878; our machines are used in every state of the union. It will cost you only a postage stamp to write us what you need and we can save you many dollars. Write us today.

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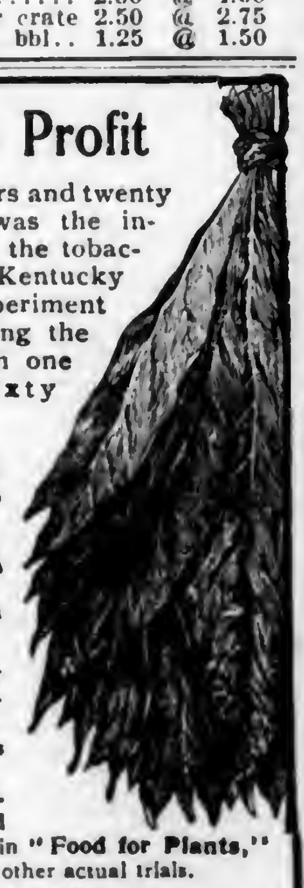

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wet, dry, lumpy, caked, strawy, full of corn stalks, etc., better than it can possibly be done by hand. Spreads lime, ashes, salt, compost, etc.

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Kemp Manure Spreader

will save more hard labor, more time, more money and bring about better results than any other machine that can be employed on the farm. It trebles the value of even a small amount of manure. It is the only thing that can successfully top dress wheat in the spring, meadow lands, pastures, etc. Can be hauled onto any land easily and without injury to land, as wheels have broad tires. Can be turned on the ground it stands on, as front wheels turn entirely under. It is strong and durably made of good material and with ordinary care will last indefinitely. Greatly improved for 1903. Send for new illustrated catalogue and "How to Grow Big Crops"—Free. Remember that the only original and genuine Kemp Manure Spreader is made by us and the patents thereon have been fully sustained by a recent decision of the U. S. Circuit Court.

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$200 BECOMES $400

IN 80 DAYS

PROFITS 100%

We GUARANTEE the advance in price of shares. Shares now 15c. each, Par Value $1.00. Advance to 20c. March 14th. Another advance to 25c. April 14th.

The Four Metals Mining and Milling Company are Mining GOLD, COPPER, SILVER and LEAD in four great Mineral States: ARIZONA, COLORADO, NEW MEXICO and WYOMING.

To you this means four fortunes in one. We have four times the opportunity others have. We are offering you an investment four times better than any other.

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Treasurer, E. C. Shearer, Secretary of Pike's Peak Coal Co., Colorado Springs, Col.

Director, M. W. Savage, Proprietor International Stock Food Company, of Minneapolis, Minn.

Director, Hon. L. L. Aitken, Member of Colorado State Legislature, Colorado Springs, Colorado.

The following table shows what you can get for your money before March 14th.

$900 will buy 6,000 shares.	Par value $6,000.
600 will buy 4,000 shares.	Par value 4,000.
300 will buy 2,000 shares.	Par value 2,000.
150 will buy 1,000 shares.	Par value 1,000.
75 will buy 500 shares.	Par value 500.
30 will buy 200 shares.	Par value 200.
15 will buy 100 shares.	Par value 100.

If desired you can purchase the above on the installment plan. Twenty-five per cent. cash with your order, 25 per cent. to be paid in 30 days, and the balance, 50 per cent. in 60 days.

THE LARGER YOUR INVESTMENT THE LARGER YOUR RETURNS. Note what you might have made in the following companies: $50 invested in Le Roi in 1896 now $8,000; $100 invested in United Verde now $150,000. The above are only two examples out of hundreds.

We shall pay dividends. Our stock will advance in price at least 400 per cent. within the next six montns. We are offering you the chance of a lifetime. A postal card will bring to you our prospectus, with convincing proofs that our proposition is the best on the market to-day. If you have not time to investigate send in your order at once, and investigate afterwards, and if not satisfied with your investigation we will return you your money. Act quickly. Address

ANDREW D. AITKEN, Secretary,
The Four Metals Mining and Milling Company,
1514 UNITY BLDG., CHICAGO, ILL.

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Prize Offer.

One dollar each for the best four articles on either poultry raising, fruit raising, market gardening or spring care of horses, that reaches our desk before March 14, 1903. In treating of the first subject, give experience in both natural and artificial incubation. We want facts and figures. The second subject refers to small fruit. Under the third heading give us hints for hotbeds and the like; also figures that show the actual profit of market gardening. The fourth subject is one of vital importance. Change from winter fare, winter quarters and stand-still experience to the rush and weariness of the spring work is a crisis in the life of every farm animal. Give us intelligent notes along this line. Let no article, on any subject, exceed five hundred words. Let all enter this little competition, not for the small prizes, but for the good we may do.

A Legend.

FLORENCE A. HAYS.

There lived a man—so runs a legend old—who called himself a holy man and just;
Dwelling by himself apart to shun the world with all its wickedness and lust,
Spending his time in meditations; reading the Holy Word and prayer,
Striving to purge the carnal mind that no unholy thought should enter there;
To keep himself unspotted from the world and undefiled.
No birds built round his abode; no flowers grew, and even children feared but knew not why;
All living things aye the dumb brutes passed him by,
And those who were afflicted in mind, body or estate,
Told not to him their sorrows, but rather chose to wait,
And make their sorrows known to some fellow man who felt and saw as they;
Who lived in touch—even this helped pangs to pass away.
And so, the story runs, a stranger passed one day,
Who, beholding the holy one intent upon his book, inquired the way.
He was a man all travel-stained and worn, with gentle mein but face that made one glad;
And with a loving smile, he said: "What doest thou here, my brother; why waitest thou?"
"Why wait? To rid my soul of sin, and make of it a dwelling fit
For the King of Glory to enter in."
The stranger passed on and out of sight;
An angel said: "It was the Lord, who would have tarried for the night."

• • • • • • • • •

There dwelt not far away a woman, whose life was full of work and care,
And love for others, leaving no time for meditation, scarcely time for prayer.
She labored much, still labored not for self,
To hoard up treasures or sordid, worldly pelf;
Who knew what sorrow meant, whose smile more sweet for fallen tears,
Unto the unloved gave the love she'd sought for years.
Those who were afflicted, sick or sad,
Came to her for comfort and went forth glad.
And it chanced the stranger, too, passed by that way,
And made as though he would go further, yet the day was nearly done.
Purple shadows lengthened on the mountain sides, low dipped the sun.
"Good master stay," she said. "Abide with me;
Humble is my home, but as it is, I welcome thee."
And water for his feet she brought, listening to his gracious words,
Even as his comfort thus she sought,
Nor knew until he'd blessed and gone his way
That 'twas her Lord she'd entertained that day.

Vancouver, Wash.

Editorial Chat.

Many of our readers remember that, chiefly through the efforts of Dr. Haynes, some time since, money was raised in the H. C. toward having "Master and I" translated into Spanish. Of course it was not nearly enough to hire a translator, but a missionary and his wife, Mr. and Mrs. Olave, of Casilla 102, Temuco, Chile, South America, feeling the great need of humane literature in that land of awful cruelty, kindly offered to translate the work, using the little we had collected toward necessary expenses. Sickness interfered, but at last the translation is complete and Mrs. Olave says: "The sweet, easy reading runs just as interestingly in Spanish as in English. I have written to the head of our printing office and he says the price for the first 1,000 copies will be about $125 United States money. A larger edition would cost much less proportionately. I think the book would have a good sale in Chile. 'Black Beauty' is already well known."

We deem it but fair to those who helped collect the money so far, to thus report progress. We shall be glad to hear from parties interested. If humane teaching is needed anywhere outside of France and Spain it is in South America.

• • • • • • • • •

So many kind, appreciative words come to our desk that we sometimes feel as if we must share them with you all. Here is a sample just received: "Respected Friend: I want to write a few lines to say how much I enjoy the articles printed in the Home Circle. They tend to elevate. We think the P. F., all through, is such a moral paper compared with most others. We see so much trash, which I think really ought not to be allowed in print. I want to encourage thee, Mrs. Melville, for I do think editors have such good opportunity of saying something that will help mankind."

Farm Life.

GENEVA JONES.

Much is being written about keeping the boy on the farm, but comparatively little is said about making farm life attractive to the girl, and trying to keep her on the farm. I know full well that many farmer girls seek to get away from the drudgery and monotony of farm life; and many do get positions in town and city, or in the schoolroom. Now the highest and noblest calling of womanhood is "home making," and where can she better learn the art than right upon the farm? The prevailing idea that the life of the farmer's wife is dull and monotonous, with each successive day a day of drudgery, has much to do with the girl's longing to get away from it all. And who can blame her when you look about you and see many such wives slaving their lives away in just such fashion, with seemingly the first and only thought that of work, economy and laying up of money?

But listen! Perhaps those are not the highest thoughts which enter the farmwife's mind. Perhaps in the early summer's morning, while she is churning away out under the shade of the tree, she is drinking in the beauty of the glorious sunrise, or of the leafy trees, the green of the meadow and the beautiful flowers nature has so abundantly provided. Maybe a bird is caroling a song of happiness above her head, which seems like a benediction. Did you ever think, dear reader, that not many songs rendered by our trained singers touch the heart of man as do the notes of these feathered songsters, which bubble up from their happy hearts, reaching out and arousing the best in man, lightening his burdens and making the day glad? So nature's beautiful picture and the song of the bird lend brightness and a joy to the day, which lightens each duty this housewife has to perform. And quite likely, as she passes from room to room doing up the morning's work, putting away the shining dishes, or sweeping the floors, she will break into snatches of song, her face aglow, and her step so light that it would be hard to realize that she was doing drudgery.

Very likely, while out among her chickens she will, with pride, think of the profits which she expects to realize from her poultry, the many needful things for the house and family, with a few luxuries also, which she will get when she sells the roosters. The eggs, of course, keep the table well supplied, and buy clothing for winter. She may even stop to note that her chickens are doing a little better than her neighbor's across the way, who made the remark, when she placed her eggs in the incubator, that "There was nothing which could beat the good old way of hatching and raising chickens with hens." And the morning she carried her batch of chicks to the brooder the same neighbor looked on with a smile, which plainly said: "These new fangled notions are bosh and I'll prove it." When your heart is in your work, dear reader, it ceases to be drudgery, so, mothers, teach the little ones, girls and boys, to love the farm, with its freedom and beauty, its toil and economy. Interest them in the growing crops, the pigs, chickens, garden and everything pertaining to the farm. Let them have their pets and teach them to love them and care for them.

Let them help you in your work, even if they do "bother so when they are so little." Plan to have home cheerful and as beautiful as means will allow. Have home arranged that things may be as convenient and handy as possible, especially in the kitchen. Let the daughter suggest plans which will make work easy and things more convenient. Be a companion to her and interest yourself in the things which are of interest to her. Farm life, with its freedom and beauty, its toil and sacrifice, molds the man or woman into a larger, grander and nobler being.

Farina, Ill.

Importance of Pleasure.

MRS. E. R. CORNELIUS.

"For I dipped into the future,
Far as human eye could see;
Saw the vision of the world
And all the wonder that would be."

The human mind is so constructed that futurity holds for man an ideal existence. We live, as it were, in a land of dreams, and see by faith a fair elysium, wherein abide untold bounties for our future. Deepest gloom may cast its sombre mantle all about us, yet we detect some rift in the darkening clouds, and some gleam of sunshine we discern, and, urged onward by this ray, we are encouraged to plod on to the long-wished-for gaol. The daily life of the majority of our people is very monotonous. 'Tis one of ceaseless toil for the very necessities of life. Rigid economy must be practiced, not from choice, but from pressing need of the means of subsistence. But no matter how destitute one may be, he plans for better times to come; and but for hope in the human heart, this indeed would be a dreary world. But it is not for us to deny ourselves all present enjoyment through a mistaken sense of economy, withholding ourselves from needed pleasures simply because we feel that by present denial we may add more pleasure at some future time. That time may never come, and the individual who partakes of beneficial pleasures as he goes along, lengthens his life. Economical traits in any man are commendable, yes, essential to his well-being and very existence, but economical habits may become detrimental to our well-being just as much as habits of extravagance, and, as persistent effort in any direction sets its stamp on one's character, so close adherence to any idea forms a habit less likely to be broken as years advance.

Boys and girls of today are full of life; their environments teem with attractive pleasures, but it requires wisdom to draw the line between beneficial and detrimental pleasures. Ours is a fast age, and many a youth is caught in the whirl of worldly pleasures and plunged into the vortex of dissipation. But girls and boys must have their share in lifes' enjoyments; and where a wise hand guides their footsteps, less likely are they to go astray. As they reach mature years they are the better prepared to take upon themselves the responsibilities of a home, and these responsibilities are legion. In the making of a home, with but moderate means, much self-denial is required on the part of each; nor should it fall more heavily on one than on the other. Many pleasures of single life must be abandoned, and ofttimes this proves a disappointment to young married people. But life means more than a continuous round of duties; nor is it politic that we make it such. We are induced with a love for participation in pleasure giving and going, and why not cultivate it? Sorrows and disappointments come to us all, but interspersed with joys, we are the better equipped for this earthly existence, and better prepared for the revealings of eternity. Mercenary motives in the pursuit of this world's endowments are not commendable in anyone. To accumulate wealth by the sacrificing of benefits deferred, is to be condemned. And do we not see instances of just such actions? The strictest economy is practiced, and scarcely more than the necessities of life allowed in the household, that by so doing more may be accrued and added to the "rainy day" pile. Oftentimes self-denial is practiced in matters wherein the promotion of health is directly concerned, and consequently the body suffers. We are endowed, as it were, with an instinct for pleasurable pursuit, and to depart from nature's rulings in the smallest degree, brings harm to some extent. Life means more than mere living; it means a broadening of its stream by tributaries of necessities and pleasures to a sense of fuller life and enjoyment. For "The life is more than meat, and the body more than raiment."

Hardy, Ark.

A HEAVY GROWTH of the stoutest beard is easily and quickly removed with the soft, rich lather of **Williams' Shaving Soap.** Besides softening the beard, it soothes and refreshes the face, and leaves it smooth and comfortable.

WILLIAMS' SHAVING SOAP has been famous for half a century. "The only Soap fit for the face." *Sold Throughout the World.*

FREE A Trial Tablet if you mention this paper and send a 2c stamp to pay postage *Address* THE J. B. WILLIAMS COMPANY, Glastonbury, Conn.

BROWN'S BRONCHIAL TROCHES. Neglect of a Cough or Sore Throat may result in an Incurable Throat Trouble or Consumption. For relief use BROWN'S BRONCHIAL TROCHES. Nothing excels this simple remedy. Sold only in boxes.

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GOOD SALARY for man in each county to sell teas, coffees, etc., to homes and stores. Valuable premiums to customers. KIRTLAND BROS. & CO., Dept. 6D, 296 Broadway, New York.

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Wash with it for five weeks, then if not satisfied return the washer. We pay the freight both ways.

Write for price list and free book of modern formulas for laundry use.

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Bottle babies are so likely to get thin. What can be done? More milk, condensed milk, watered milk, household mixtures—try them all. Then try a little Scott's Emulsion in the bottle.

It does for babies what it does for old folks—gives new, firm flesh and strong life. You'll be pleased with the result. It takes only a little in milk to make baby fat.

We'll send you a little to try, if you like. SCOTT & BOWNE, 409 Pearl street, New York.

Buy "BALL Band" BOOTS Rubber and Wool, Arctics, and Rubber Shoes.

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FAIR OAKS, N. Y., April 5, 1902.
Dr. D. M. Bye Co., Indianapolis, Ind.

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Do you think it best for me to have another bottle of the Blood Purifier?

Your medicine has helped me and I am willing that you should use my name as one who is willing to recommend the efficiency of your cures.

If you wish to send me some papers I shall try to distribute them.

Yours very respectfully,
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Farm Management.

EMMA NORTHRUP SMITH.

No two persons will manage a farm alike, but perhaps all will be successful. When a child, I remember a minister's asking a man about his religion. "Oh," said he, "if you want any money I have it; but my wife has the religion for the family." In too many families it is just like that; the man has all the money, and cares little for anything else or for anybody. Don't think for a minute that I am in favor of the wife handling all the money, and managing the farm, for I am not, unless she is much the more capable. I am a believer in woman's rights, and if a woman really wants to chop wood, dig potatoes and hoe corn, it is a poor specimen of a man that won't let her. Don't think it good management for your husband to own a $50 mowing machine while you are doing your sewing by hand; and, sisters, do try and earn some money that is your very own, even if you do not spend all your afternoon in the kitchen. Make your clothes plainer; make fewer pies, spend less time over the ironing board. Your slumbers will be just as peaceful if your sheets and pillow slips never see a hot iron. Yes, earn your own spending money — raise poultry, pick berries, keep boarders, and, if nothing better appears, peddle soap. Nothing will make you feel happier than to have your husband ask you for the money to finish paying for the new buggy. (You at once give it to him, and never hint afterward that you only loaned it.) No matter how many ways you have for spending your money, have good reading and plenty of it. Do all the work you can in the forenoon, and after the dinner work is finished, rest, take a nap, read a good book, take a walk out where your husband is at work, and take just as much pleasure on the farm as possible, for after all, life is what we make it; and taking the days, months and years together, there is much more sunshine than shadow.

Chenango Co., N. Y.

Furnishing the Bed-Room.

ETHEL TODD MOORE.

I will tell you how I furnished my bedroom. I papered the room with cheap white paper. It has pink tea roses tossed at random over it. I painted the woodwork of the windows, mantel and door pink. The floor was covered with cheap white and red checked straw matting. The windows were curtained with white Swiss curtains, ruffled and tied back with pink ribbon. Also the mantel draped with white dotted Swiss and tied with pink ribbon. I placed pink candles in ancient brass candlesticks and sat one on either side of the mantel, and a little gilt clock in centre. The old-fashioned bureau, washstand, chairs and bed were painted white, the bureau I placed at one side of the room and on this a large mirror was hung between the two brackets fastened to the bureau. On the bureau I placed a scarf of dotted Swiss and laid two pin cushions, made of pink sateen, on it. The washstand on the opposite side of the room was draped in pink sateen. Also the screen. The wash bowls and pitcher were white with pink flowers. I placed the bed in one corner of the room. The spread and bolster roll were white Swiss ruffled. A few pictures scattered around finish this pretty and comfortable little room.

Morgan, Ky.

Our Book Table.

Build the more stately mansions, O my soul,
As the swift seasons roll!
Leave thy low, vaulted past!
Let each new temple, nobler than the last,
Shut thee from Heaven, with a dome more vast,
Till thou at last are free,
Leaving thine outgrown shell by life's unresting sea.
—OLIVER WENDELL HOLMES.

The above author was the subject of our Twentieth Century Club's literary programme at the last meeting, and, of course, we feel better acquainted with him than heretofore. He was introduced as poet, doctor, humorist, essayist and novelist. As a novelist he stands last. His two principal books are "Elsie Venner" and "The Guardian Angel." Soon after the former came out, a lady friend, meeting the author on the streets of Boston, remarked: "I have just finished reading your medicated novel, Dr. Holmes."

The name pleased the man so much that he ever after spoke of it as his "medicated novel." It is a story illustrative of prenatal influence. This and heredity are two of his pet themes. It is a work, however, that teaches a lesson, and a much needed one. Some months previous to Elsie's birth, her mother was bitten by a rattlesnake. Powerful antidotes saved her life, but she died soon after the child was born. Elsie was a beautiful girl but peculiar beyond expression. Her handsome eyes had a baleful light like that of a serpent's; she never shed a tear, until on her deathbed; she seemed incapable of love or tenderness, and was wont to escape from her home and spend days and nights in a rattlesnake-infested cave in the mountain, where it appears she had the terrible reptiles in perfect subjugation. The story is not pleasing, though charmingly told, and, unhappily, a picture of a great truth. The wonder is that we do not see more similar instances.

Correspondence.

Mrs. C. N. Sleight, South Glenfalls, N. Y., writes: Dear Mrs. Melville: I want to thank you for the part you have taken in cheering me, and ask you to kindly thank the H. C. sisters for all the letters and reading, besides the presents, they have sent me. They have brought more sunshine than I have seen before, since last May. I do not have any time to get blue now, and husband and son have caught the rays of sunshine, too. It does not seem like the same home it was before the sisters began to write. Have received 65 letters. When Edward—my son—came in last Saturday night, he came to me and untied the bag and out came all the packages I could hold. There were no letters. He asked me if that would do. I said yes, that there was lots of reading, and I must not expect a letter every mail. So they hurried me through with the papers and I ate supper with them, but before they took me away from the table Edward went to his overcoat and brought me twenty-two letters. Can you magine my delight? A man who was at our house at the time, said he never saw anything that did him so much good. I do not know how I ever bore my suffering and discouragements before this change came. I wish I could answer all letters personally, but this I could not do. My sister is alive yet, but the doctor pronounces her case hopeless. She does not ask for her baby any more. It is hard for me to give her up and not even see her again, but they tell me it is better I should not see her. I am no better myself, except being happier through the kindness the H. C. readers are showing me. God grant that I may meet you all in the Great Beyond, where we will understand all things.

[Dear H. C. friends, is it not a wonderful privilege to thus bring gladness to a weary heart. We feel that indeed we are the ones to be thankful. The sister did not intend this letter for publication, only the thanks she wanted extended, but we enjoyed the wording so much that we felt we must pass it on "whole." The good our grand P. F. is doing is limitless. While life shall last let us not fail in our work of weaving sunshine into the lives of our two shut-in sisters—Mrs. Sleight and Miss Kinney. And doubtless there are others—we know there are—who turn eagerly and hungrily to the H. C. each week for "letters," words of cheer and encouragement from us all. Let us not disappoint them; let us dedicate to these weary ones the best that is in us. No matter about the dollar prize offer, no matter about anything else when one has a chance like this.—ED.]

They Should Have It.—Every reader of the P. F. should send their address at once on a postal for the Maule Seed Book for 1903. It contains eight colored plates and the best assortment of plants, bulbs and seeds ever offered the American public. Address, Wm. Henry Maule, Philadelphia, Penna.

Youth's Parliament.

J. Mae Kaelin, Riverhead, N. Y., writes: When I last wrote to the Y. P. I was nine years old. I wonder if Mrs. Melville has forgotten me. She called me Julia then because I gave my full name. I am beginning already to plan for the summer amusements—pretty early, isn't it?—which will pass the time pleasantly. Living near the cool woods, we can have "gypsy teas" in them, or in the fragrant orchards. This is very delightful, especially for one's city friends. I would like very much to correspond with a girl or boy of my own age. I am between 14 and 15 years of age. I love to write letters. Shall I come again and give descriptions of my "teas?"

[Certainly, Mae.—ED.]

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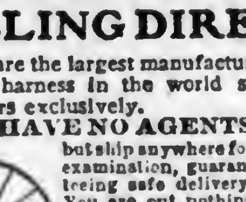

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Topic No. 564, March 21.—*For the Ladies. How do You Make the Washing of Dishes, Pots and Pans Easier and not at the Expense of Time and Cleanliness?*

Topic No. 565, March 28.—*Have You Ever Tried Flat Culture with Cotton, and What is the Best Distance to Thin in the Rows and Between the Rows?*

Topic No. 566, April 4.—*How Do You Raise Turkeys, and What Breed is Best?*

Topic No. 567, April 11.—*What Varieties of Peaches Have You Found Most Profitable and How do You Manage Your Peach Orchard? Mention Best Two Varieties for Early, Mid-Season and Late.*

Topic No. 568, April 18.—*In Farming on Shares, What is Considered a Fair Rent in Your Section, and Should the Share Include the Poultry the Wife Raises?*

Topic No. 569, April 25.—*What is Your Experience with Hired White Labor in the South as Compared with That of the Negro?*

Topic No. 570, May 2.—*What is Your Experience in Stacking Hay Right from the Swath, and Have You Any Home-Made Derrick That Has Proved Economical of Time and Labor in the Stacking? Do You Use Fork, Horse Fork or Sling?*

Topic No. 571, May 9.—*Give us Your Experience with Alfalfa East of the Mississippi.*

Topic No. 572, May 16.—*Cherries for Market. Have You Found Them Profitable, and What are the Most Profitable Sorts?*

Topic No 562.—Have You Raised Good Calves Without Milk. If so, How?

Mrs. Frank M. Terry, Silver Hill, Md.—I raised two heifer calves without milk. I think it just as much trouble to raise one as it is to raise two. They were both dropped the same night in January. One was a Jersey; the other a Holstein. They were beautiful and I had a great desire to raise them. The milk from the dairy was all sold in Washington at retail. Could not afford to raise calves on milk that was worth eight cents per quart. There was no objection on my part could I raise them without milk; what had been done could be done again. The care and interest in their growth afforded me much pleasure. The fact that they were raised without their mothers' milk was a lesson of value. I got one hundred pounds of oil meal, and made 2 teacupfuls into porridge, by boiling it in an iron pot; I found difficulty in keeping it from scorching. The calves did not like the flavor, and the kettles were hard to keep clean. I found by boiling a pail of water, with the oil meal wet with cold water, then mixed together, by standing on the back of the stove a little while, it would be just like jelly. At first I added a little milk until they got used to eating the jelly. I made some clover hay tea and mixed with their feed. They did not really enjoy the hay tea; I considered it of value in their growth, both in its nutritious and stimulating effect. I made a little hay rack and feed box together. Kept some hay before them, some oats in the bundle, some corn meal and wheat bran in the feed box. It was not long before they were eating the hay and grain. A couple of times I detected the smell of scours, and by breaking a raw egg in their mouths I prevented them. It is necessary to keep pen or sleeping room sweet and clean, which adds much in the prevention of disease. A raw egg a day through the summer months makes their hides soft and coats shiny. In the spring they were turned out in a shady pasture and had a little grain all summer. At one and one-half years old they dropped their first calves, and today they may be seen in our stable, and worth $40 apiece.

Mrs. Maria Muller, Cardiff, Ala. — Four years ago we lost a good cow, leaving a calf two days old. She was our only cow and there was no milk for the calf. I cooked smooth mush of two cupfuls of sifted bran, and bought milk of a neighbor two miles away but could not use it as it was soured. So I thinned the mush with boiling water, cooled it and worried the calf three times a day to make it drink. After two weeks changing from mush to meal, or making mush of bran and meal, the calf was found with the scours. We hunted up the back numbers of the P. F. for a remedy, and found articles by Dr. Wilson about raising calves without milk. Got flaxseed meal, which he said contained a substitute for milk; added two tablespoonfuls of flaxseed meal to the mush of bran and stirred in a fresh egg. Thinned it and put it in a bottle with a nipple having the hole enlarged, and fed her three times daily. Feeding nine eggs in eight days, the scours were cured the second day. The calf gained rapidly. I milked a teacupful of milk from two ewes for four evenings, boiling it and putting one-third in each feed the next day. After that only the bran mush and flaxseed meal. She grew fond of the bottle and would frisk around at the sight of it. At a month old she began to eat grass and hay and I fed her but twice a day and made the food thicker. She never was sick and will have her second calf soon. The only disadvantage is that they seem to breed later than usual.

J. C. Smith, Lena, Ill.—The best way, in my experience, has been to let the calf have its mother's milk till about two weeks old. Then gradually diminish the quantity of milk and mix it with oil cake which has previously been stirred up in cold water, to prevent its getting lumpy. Then scald with hot water and stir till a smooth gruel is made. Begin with a tablespoonful of oil meal to a calf, and gradually increase to a pint or more as the calf grows older. Feed regularly morning and evening at same hour. When they are four or five weeks old they can get along without milk, as they will then eat oats and hay or grass. The oil cake slop will make a good substitute for milk. Some feed chops, but I find whole oats better, as they cause the calf to do more chewing in eating, and thus get the saliva mixed with the food. I generally put a very little salt in the slop.

H. B. Kohler, Canfield, O.—This is hard to do unless the calves are treated right. I have raised some nice calves without milk. I let the calf suck for seven to ten days. Then take it from the cow and place in a dry, clean stable with a trough convenient and a rack for hay. I put some chopped oats and corn in the trough and some of the best hay in the rack so the calf can eat at will. It will soon be chewing at the hay and licking the chops. I also save one gallon of good swill mornings and evenings and boil a mush of corn meal and mix with the swill, and give a gallon twice a day, increasing to one and a half gallons as the calf learns to eat, and leave out the mush.

J. H. Duble, Wickliffe, Va. — We have raised two winter calves and one spring one without milk. The first one we fed on warm gruel made by boiling corn meal and water, and feeding it warm. It began to scour. We put a raw egg down its throat and cured this, and it soon began to lick bran and eat shelled corn, and at two and a half years old it brought $40. The other one was fed on hay tea, with bran and cottonseed meal till it learned to eat grain and hay, and then was turned to grass without any other feed. It did not grow as fast as the other one, which had feed while on grass. The spring calf we bought when five weeks old, in last June, and let it in a grass lot and gave it separated milk. But it left the milk and took to the grass, and got nothing but grass. It seemed to barely live, and when put into winter quarters has had only fodder and corn, but will have to have a better balanced ration if it pulls through.

E. C. Union, Morrow, O.—While we prefer to feed calves on whole milk for a while and then put them on separated milk, yet we have raised calves without milk, or, at best, very little of it. We fed them hay tea. Filled a kettle with clover mixed hay chopped fine, and covered with water. After cooking for some time a handful of oil meal was added to a pail of the tea and fed warm. The calves soon drank it as well as milk and throve on it. We kept dry bran and meal and clover hay always in reach and the calves were soon eating them. We occasionally added charcoal or raw eggs to the tea to correct any bad effects.

C. J. Moore, Morrisville, Vt.—Good calves may be raised with very little milk, but I doubt that a good calf can be raised without any milk. The calf should have milk for at least two or three weeks, until it eats hay, when it may be given a little fine middlings, and gradually increase the middlings and decrease the milk. By the time the calf is five or six weeks old the milk may be omitted. A little oil meal may be added with benefit. Wheat and buckwheat flour are also good and will not scour. The middlings may be made into porridge and thinned with water, or they may be put into warm milk and fed without cooking. It will always pay to make hay tea by filling a tub with hay and pouring boiling water over it and let stand till cool. We have raised calves in this way, which at a year and a half old were classed as two-year-olds.

Dana Waldron, Wolcott, N. Y.—Two years ago we raised four calves on whey from a cheese factory. They were fed ground oats and corn in a box once a day. They would not eat the grain if put in the whey. A little salt should be added. They had the run of about an acre of old orchard, where grass was abundant. They made good calves, though not quite so good as some we bought which were raised on milk. But by this time one could hardly tell the difference.

Ralph W. Peart, Templeton, Pa.—The best calves we ever raised had no milk, as we had none for them. We fed hay tea and oil meal. Pack hay in a kettle and cover with water and boil half an hour. Give one gallon of the tea with four tablespoonfuls of oil meal daily, and it will keep the calf thriving.

F. J. McAllister, Alliance, Pa.—We are raising many calves and many of them without milk. Scald middlings with water and add a tablespoonful of International Stock Food (middlings, salt and charcoal) to each calf, with plenty hay, or, in summer, grass.

Mrs. A. A. Watkins, Manson, N. C.—I have been raising calves without milk for years. That is, I let them have milk till I can teach them to eat, and I generally get them to eat almost anything by the time they are five or six weeks old. I begin by giving them bread crumbs, then cooked potatoes, and after that they will eat anything they can get, but are especially fond of wheat bran or ship stuff with a little salt. I am raising two now which ran on clover all the fall and were fed bran night and morning. When the weather got bad they stayed in the stall all day, only coming out in the lot when the sun was shining. Every morning and night they have a generous feed of chopped raw sweet potatoes and bran and the same roughage as the cows. I do not know that this is a balanced ration, but they thrive and grow, and that is what I am working for.

A. A. Oberlin, Easton, Md.—We raised a very fine Holstein cow from a calf with so little milk that it was hardly worth mentioning. At first take one part of linseed meal, three parts middlings, a little milk to start the calf drinking and then gradually drop off the milk, using warm water instead, and increasing the feed as calf grows.

S. S. Chandler, Hardwick, Vt.—I suppose that the question does not mean that the calves are to be raised absolutely without milk from the start. We have had success in raising calves with small amounts of milk. The calf is given its mother's milk till it is fit to save, though, as a rule, we do not allow the calf to suck; as it is better for cow and calf that they should not. We feed whole milk till the calf is a week old, when we change gradually to skimmilk, feeding from one and a half to two quarts twice a day, giving a little salt and increasing to a teaspoonful at a feed. When skimmilk is fed we add a small amount of equal parts of meal and bran scalded, increasing gradually, and as soon as the calf will eat enough of this we take off the milk. Keep hay before the calf and he soon begins to eat it. Have fed oil meal, but have such success with the meal and bran that I do not know that there would be any advantage in changing. We teach the calf to eat dry meal as soon as practicable, using the same mixture as in the slop. Since we have adopted this plan and have been very careful in increasing the ration, and always putting some salt in, we have had no trouble from scours or indigestion. If we wanted to get along with still smaller amount of milk we would use the flaxseed jelly commonly recommended, but in our method we raise good calves with much less milk than formerly thought necessary.

G. Camerer, Madison, Ind. — Sometimes, needing the milk badly, I let the calf suck three to four days and then teach it to drink, which is not difficult if you have a little calf-patience. Then gradually diminish the whole milk with skimmilk, which can shortly be substituted by a thin gruel of oil meal and corn meal, or, still better, low grade flour, which is far better than the trash now sold as middlings and ship stuff. The calf will learn to eat much sooner and is less trouble. I have raised as good, or better, calves in this way than on milk. It does not pay to put 20 to 25-cent butter fat in a 5 to 6-cent calf.

M. L. Jordan, Woodford, Ohio.—Hay tea is a good substitute for milk, as it contains all the food elements needed and is very digestible if the hay is early-cut. It should be boiled down so as to concentrate the food and not have too much water. We feed two gallons of hay tea, in which we mix one-quarter pound of flax seed and one-quarter pound of wheat middlings for a calf 30 days old. Then we fed for thirty days and increased the middlings to one pound daily. This calf increased a little over two pounds a day. Then let them have what clover hay they want and a lot to run in in the winter, and good calves can be raised without milk.

J. F. Weaver, Lancaster, Pa.—I have, in the past five years, raised about 25 calves, using very little milk. Lost but one, and that from bloating. Leave the calf with the cow about two days. Then teach it to drink about two quarts of its mother's milk twice a day from a bucket, for a week. A calf feeder would doubtless be useful. The second week scald a little white ship stuff, about a handful, and use a little less milk. Then keep lessening the milk and increasing the ship stuff for a week or ten days, and then the calf is ready to get along with no milk. A little wood ashes should be put in the mixture to prevent scouring. Calves should now be fed till about three months old, twice a day, one and a half pounds of ship stuff and bran mixed in equal parts, with quite a small handful of oil cake meal scalded and made lukewarm with cold water. During this time they should be encouraged to eat the same mixture dry with hay, fodder or silage, and when they are between three and four months old they are ready to bid adieu to the bucket and eat dry feed well balanced and to drink good fresh water.

Mrs. J. A. Kirkman, Grand View, Tenn.—I have raised good calves by feeding tea made of clover hay and giving dry bran slightly salted. If troubled with scours give them a raw egg. I have a nice Jersey heifer that has had very little milk. She is large for her age and will be in milk before she is two years old.

J. F. B., South Montrose, Pa.—We raise calves practically without milk. We give them new milk till three weeks old, and then by adding warm water by degrees we get them on warm water and grain ration. Prefer oats whole or ground, fed dry, as we feed all our grain ration dry. Sometimes use bran, gluten and buckwheat ground in equal parts by weight. Give early-cut hay from the start. Prefer clover hay. In winter give a small quantity of warm silage when feeding the cows. Young animals need warm food. If inclined to scour decrease the amount of warm water, and do not over-feed. With Holsteins or Shorthorns there is not so much danger of over-feeding as with the small dairy breeds. A little fresh earth is needed for them to lick to keep them healthy, unless they have roots. Keep in a warm place in winter and have a separate pen for each calf, with a manger, feed box and bucket. Keep pail sweet by frequent washing and scalding in summer. Calves raised in this way look like little cows with their large stomachs. We think they make better cows, as it causes them to have a greater capacity for food. All good cows have large stomachs. We keep calves in the barn till three or four months old, even in summer, before turning to grass. If you want them to do their best keep up the grain ration till they are a year old.

SUMMARY.

Some of our friends tell what they have seen. Others write on dark paper with pale lead pencil, and some tell about raising calves on skimmilk. This last is not the question. Of course calves can be as well, or even better, raised on skimmilk than on whole, and the Pool is for personal experience, not essays on what one has seen. We have more than once said that dark paper and lead pencil are ruled out, unless the pencil is particularly plain. It seems evident that none have raised calves entirely without milk, and we feel sure that, taken from the start, it cannot well be done. But we have found it far easier to teach a calf to drink which has never been allowed to suck the cow at all. Of course the proper food, for a while at least, is the cow's milk, and that is fit at first only for the calf, and is needed by the calf. So that the feeding for a time with whole milk does not count in the topic. But by the time the cow's milk is fit for use the calf should be taught to drink, and should gradually be gotten onto skimmilk and then to hay tea and gruel, and if this is done with care there is no reason why the calf should not prosper. In the matter of scours, we have found that feeding the calf some whole grain is a better preventive than anything else. It seems curious that a calf will digest whole grain more completely than a grown cow, but we have stopped a scouring calf with whole parched corn. Years ago, when breeding up a dairy herd, we had a contract with an old lady up the mountain above us, in Virginia, to take, at a very low figure, all the bull calves as soon as dropped. She raised them by hand and made steers of them to put on her mountain pasture, and getting them at a nominal price, she made a fairly good thing of it, and we had only our heifers to care for. We found no difficulty in teaching these to drink milk from the start, and later, to drink gruel, and as one of our friends says, the sooner you can get a heifer calf to eat a large quantity of roughage, the better cow she will make, as it distends the paunch at an early age, makes pot-bellied and ugly calves but the best of dairy animals. One paper was without name or postoffice and is left out.

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Farm Implement Annex
To The Practical Farmer.

It is the purpose of this department to assist P. F. readers in securing the best implements and machinery for doing their work, and to so adjust, manage and care for same as to get the best possible returns from their use. We invite subscribers to write us fully and freely in regard to farm implements and machinery. Pointers on selecting implements for various kinds of work and soil; on buying, operating and caring for them; their defects, improvements, attachments, adjustments, etc., will be welcome. A cash prize of 50 cents will be paid for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Put at top of each article For "Farm Implement Annex," and send to Geo. T. Pettit, Box 32, Oneida, Kan.

The Care of Farm Implements.—I am glad to see that our farmers are coming up to date with their farm work, yet there is one point wherein many are behind time, and that is in the care of their farm implements. A plow, a machine, a wagon, or any other farm implement will last a farmer twice as long with proper care as it will if uncared for. How often do we see plows and harrows standing in the field from November until April. Some men never put a plow or harrow in a shed, but simply move them from one field to another, and in 4 or 5 years they are obliged to buy new ones. Some forget to oil their machinery properly and when the season is over it is put where the hens roost and by spring it is rusty and pretty thoroughly painted with hen manure. Machinery in such condition cannot last many years. Fifteen years ago I bought a fanning mill and I will take water and soap and wash it and wipe the oil off of the wheels, and it will look exactly like new.

Wehr, Pa. F. F. FRANTZ.

[It is much easier to keep a fanning mill looking nice and new than it is a plow or harrow. The work of the fanning mill is indoors and it rarely goes outside, while the work of the plow and harrow is all out of doors, usually at some distance from the buildings.—ED.]

Split Hickory vs. Sawed.—A vehicle is only as strong as its weakest part. A wheel with hub spokes and felloes made from the strongest wood, if the wood is sawed across the grain, has little strength. The "Split Hickory" line of vehicles, as their name indicates, is constructed of split hickory—not sawed—and is of greatest strength and endurance and uniformly strong in all its parts. To obtain these splendid, strong and stylish vehicles, send to Station 37, the Ohio Carriage Mfg. Co., Cincinnati, O., for complete illustrated catalogue. Their prices are low, quality high, and their thirty days' free trial offer is genuine and bona fide. Be sure to mention the P. F. when writing.

Buying and Using New Tools.—As a large amount of farm machinery is sold in the winter months, now is a good time to study the subject. I hardly think anyone will make a great mistake in buying any of the standard machines provided they can be used to good advantage on the farm. The best way is to buy of some man who understands setting up and operating all the machinery which he sells. As a self binder is quite complicated it is a good plan to watch the setting up, and thus learn what the different parts are for and how to make changes when they shall be required, also to learn where all the oil holes are. I heard of a man not very far away who wore a binder out before he found all the oil holes. The rapid running parts of any machine should be oiled frequently with good machine oil and then kept in the dry when not in use. I know of a binder and a reaper, sold last summer, that failed to give satisfaction simply because they were not set up right. A machine that is not properly set up always gives trouble to buyer and seller. MERL LEVIER.

Fisher, Pa.

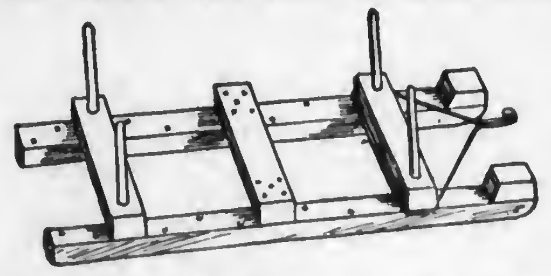
Hay Slings. — Mr. Terry last fall in "Hand Pitching to Mow" surprised me. A set of hay slings would, in one year's use, repay him their first cost. Did you ever see them work? One is placed at bottom, right on the hay rack and one-third of a load is then pitched on. Now put on another sling and pitch on one-third of load, then a third sling and load to finish. Three slings will carry a full 2-horse load of hay or grain. Just as handy for bundles in loading and "out of sight" unloading. Team is put on rope same as in using the horse fork and draw the sling to the required height, even to peak of barn, then over mow and dump. One man will mow while the team is getting back for next sling, usually. Bundles are dumped in extra good shape to mow. Bundles of corn stalks are elevated and mowed with comparative ease, while beans are put in the mow more like a holiday junket than the work of hand pitching. Surely hand pitching and horse forks should be relegated to the days of Noah; they are not "in it" with slings. E. HOLLENBECK.

Davison, Mich.

Butchering Derrick. — Among all the devices for hanging hogs at butchering time, we have found nothing so cheap, convenient and easy to operate as a derrick made of three light scantlings or poles fastened together at the top with a pin or bolt. Lay the derrick on the ground with the middle arm extending in one direction and the two outside arms in the opposite direction. Lay the hog between these two arms and hitch to it with two small iron hooks inserted into holes in the arms and hooked into the gambrel strings of the hog. Now take hold of the centre arm and raise it up to swing the hog as high as desired. Any sized hog can be hung on one of these derricks by raising it to the proper height. Then the hog can be cut in two and one half taken down without disturbing the other half. The same kind of derrick, but larger, can be used for hanging a beef. JAS. B. CLOSE.

Meadville, Pa.

Good Farm Sled. — The simplest and strongest farm sled for hauling manure and heavy objects, is made as follows: Each runner is made of two pieces of 2x6, 10 feet long, spiked together, 6-inch side to be on the ground. Care should be taken to have the front end of each runner properly rounded so it will run smooth. A block of same material as runner, 8 inches long, is to be nailed on top of each runner at front end. The crosspieces, 4 feet long, are of 2x8, or wider, material, and should be nailed on to project one and a half inches outside of each runner. Holes for standards to be bored 3 inches from ends of crosspieces. One inch pipe or other irons will make good standards. Front crosspiece should be 15 inches from end of runner. Put a log chain around front crosspiece to hitch to; drive spike in back of crosspiece to put chain on to keep it from slipping around. L. W. BLACK.



Newcastle, Pa.

Cheap Garden Weeder. — Having an onion patch to tend and no wheel hoe, I made a frame with cross-piece 14 inches long and 2 inches from the ground behind the wheel. An old wheelbarrow wheel was used, while the handles were a part of the frame, the axle of the wheel passing through them. The cross-piece was 4 inches wide and through it I drove two rows of 20-penny spikes, 2 inches apart in the row, so they would cut one inch apart. When used before the weeds got up (and that is when onions should be hoed) it did as good work as anything could. MARION P. WHEELER.

Greenleaf, Ore.

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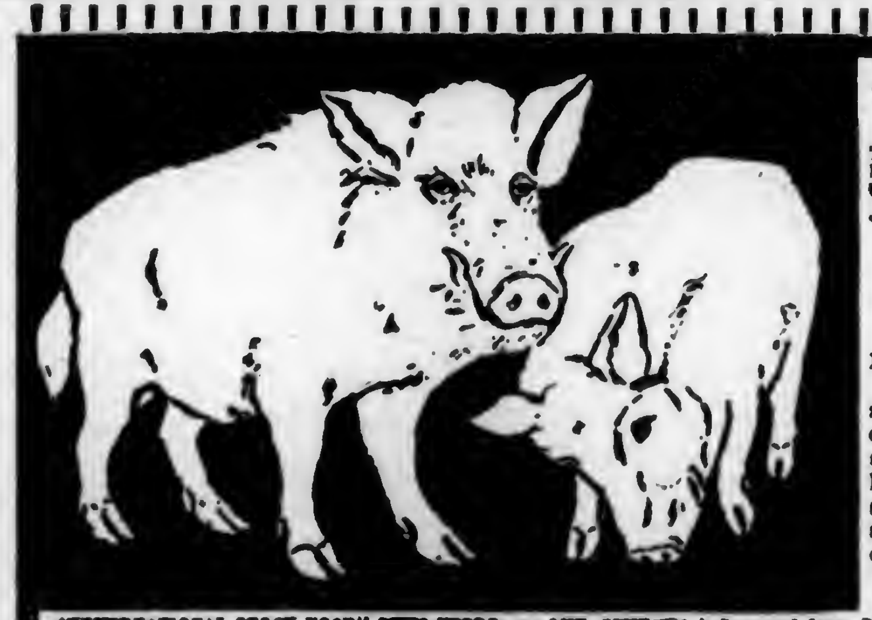

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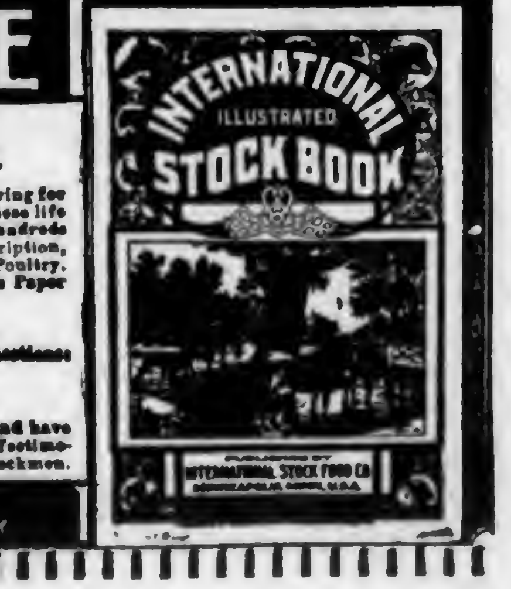

SHORT CUTS.

BY PRACTICAL FARMER SUBS.

All other trades have resorted to "Short Cuts." To be successful farmers must resort to them, too. In this column we will publish all actual labor saving short cuts made by the farmer on the farm and the housewife in the home. Write and tell us of any labor saving tool you have made, of any method of management or manner of using implements to save time, labor and money, or increase their efficiency. Even the smallest things may be useful and valuable. Hints and helps in the household are always welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Write on postal cards and make articles short. All errors will be corrected by the editor. Address all communications under this head to T. Greiner, La Salle, N. Y.

A Match Scratching Board Saves Walls.—Cut a piece of ½x6 inch board 11 inches long. Tack a sheet of sandpaper on one edge, bend the paper over, drawing close and smooth across the surface of board, bend over and tack on the other edge of board. Bore a hole in end near middle of board. Hang on nail that the match box is hung on. Very handy to scratch matches on. It saves marking the wall.
Eagle, Wis. THEODORE J. SPRAGUE.

Various Suggestions.—If when loading or driving hogs you have one that will not go into the chute or cross a walk, have a bushel basket handy, and when he turns on you, just slap it over his nose and back him in. When hitching a colt to wagon the first time, wire neckyoke fast to end of tongue. It may save you two or three dollars for a new tongue. I took an old wheel off grain table of an old reaper and made a good, stout wheelbarrow, and saved $2.50. To keep stovepipe from slipping down too far take No. 12 wire cut in 2-inch lengths and make a hook in each end. T. E. WHITLOW.
Moran, Kan.

Care of Painted Floors.—After your newly painted floor is dry, before using, wipe off with a mop and sour (not thick) milk and you will be surprised to note how smooth and glossy it will be; it will not rough up on being used, as it often does after mopping with water. It is a good plan to use half milk and half water occasionally, when mopping a painted floor, as it brightens its appearance very much.
Alden, Ill. MRS. O. R. SUMNER.

Cultivating Sweet Potatoes.—To cultivate sweet potatoes planted in ridges, take the springs off the spring cultivator and put scraper on in place of the spring plows. If vines are in the way put hooks on and pull the vines to ridges. The top scraper pulls the soil from the plant; the lower one pushes it back up against the plants, leaving them in nice shape. One horse can do the work. Begin work the third or fourth day and keep it up as long as the vines will permit, running the lister through occasionally. Anyone using this device will find it a great labor saver. J. M. TAYLOR.
Belle Plaine, Kan.

Breaking a Three-Year-Old Colt to the Halter.—Place the halter on the colt as usual; then take a half-inch rope, put a ring on one end and put this just back of the forelegs, around the body, with the end of the rope through the ring and through the ring on halter under the chin. This pulls between the legs and they will soon learn to lead. I have done this with an old horse that would not lead behind the buggy, and the animal came along nicely.
Northfield, O. J. L. RITCHIE.

Sending Coins by Mail.—It is often desirable to send small sums in coin by mail. A simple and convenient way to secure the coin, whether there be one or more, is to fold a piece of cardboard (the back of a writing tablet answers well), place the coin between the two sides and against the folded edge and then with a coarse needle and thread stitch around the coin.
Mt. Vernon, Ill. S. F. MINOR.

Warmth and Comfort During Long Drive on Cold Day.—I place a lighted lantern between my feet, under the lap-robe before starting for any place on a cold day, and I can drive in comfort from early morning until noon, even in zero weather. The heat of the lantern keeps the feet and legs warm and the heat rises through the robes and clothes to all parts of the body. When a hand gets cold, put it under the robe on top of the lantern; the hand is soon comfortable and heat goes up the sleeve to all the upper part of the body. I have a dashboard lantern with No. 1 burner; it makes better flame, more heat, and is not so easily put out with a jolt as a No. 0 burner, and when I want it for light it is better than a No. 0 burner. When not wanted for heat it is out of the way and ready for use on the dashboard. I have used my lantern for heat for years and only recently discovered how few of my neighbors have thought of the plan.
New Wilmington, Pa. J. B. JOHNSTON.

Cheap Way of Raising Hogs. — A farmer, who is a successful hog raiser, plants cow peas early in May. As soon as the pods begin to ripen he turns his hogs on them, 8 or 10 to the acre. They come off September 1st ready for early market, when he says he receives best prices. For late hogs he takes them from peas October 1st, and puts them on ground planted to Jerusalem artichokes, making large hogs without corn.
Knoxville, Tenn. M. H. BURRIS.

Short Cut for Baby. — Having an old-fashioned porch, open only across the front, a long gate was made of a narrow board top and bottom, with small-mesh wire netting between, and centre-piece for strength. This, painted white, was put across the entire front and made to slide to one side when not needed. A large home-made rug, 6x7½ feet, with wide border and fringe on each end, was laid on the floor, a long box of growing vines and plants fastened on one side near the front, a high-back arm chair, a small white rocker, a palm in a jardiniere, a large blue denim cushion, a basket of playthings and a string tied through the hammock hook close to the clematis vines at one side to "play horse" with, made a nice place for baby and mamma on pleasant days.
Ithaca, N. Y. MARIAN O. BROWN.

To Prevent Ladder from Slipping on Floor, take two spikes and drive one in bottom end of each side of ladder to within one inch of head. Nails can be bent down to under side or left straight. This I have found very effective, and will allow one to climb ladder on the smoothest floor, set at most any angle, with perfect safety.
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Hoe for Cutting Corn.—Take a common garden hoe, cut the handle off about 2 feet, and sharpen the blade. Gather the corn under the arm and one blow with the hoe will cut it off very close to the ground. I would recommend it to all corn growers, as it is a very useful tool. Save the old hoes for this. WATSON L. ROPER.
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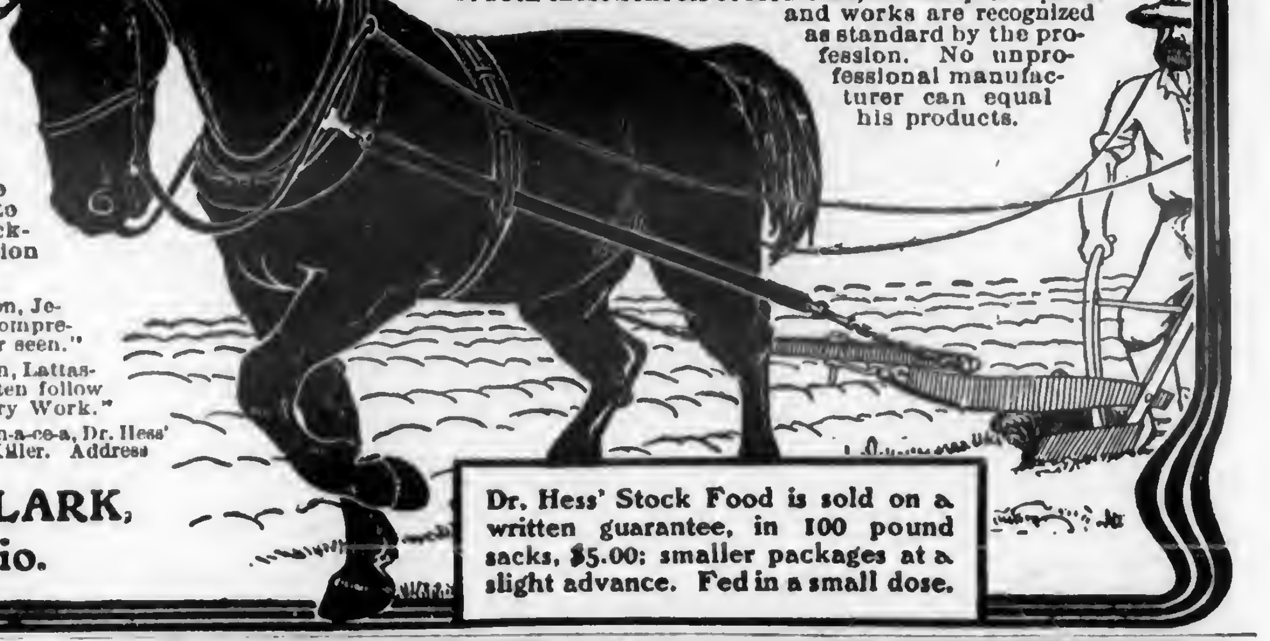

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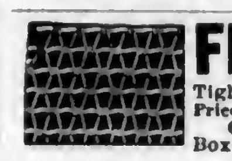

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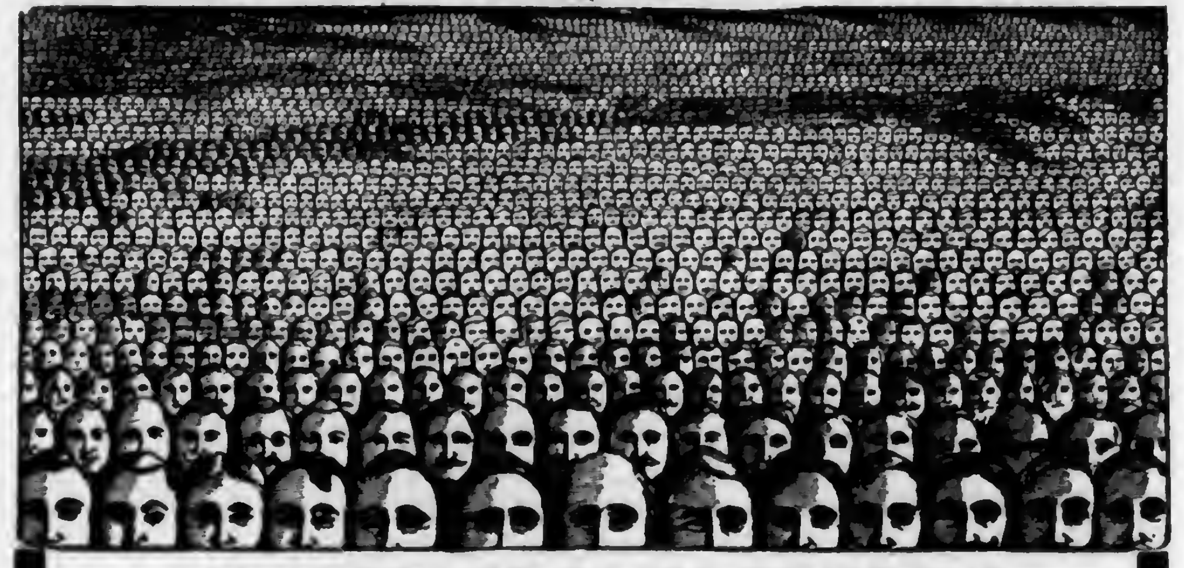

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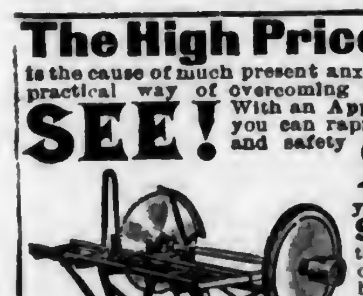

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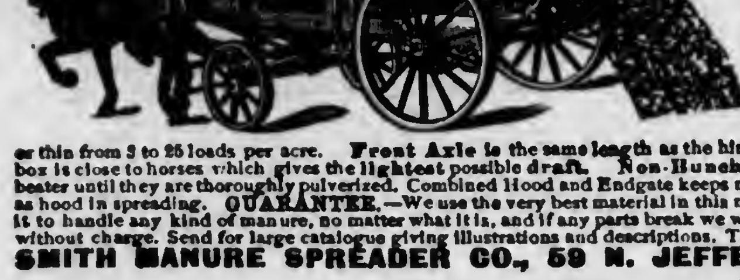

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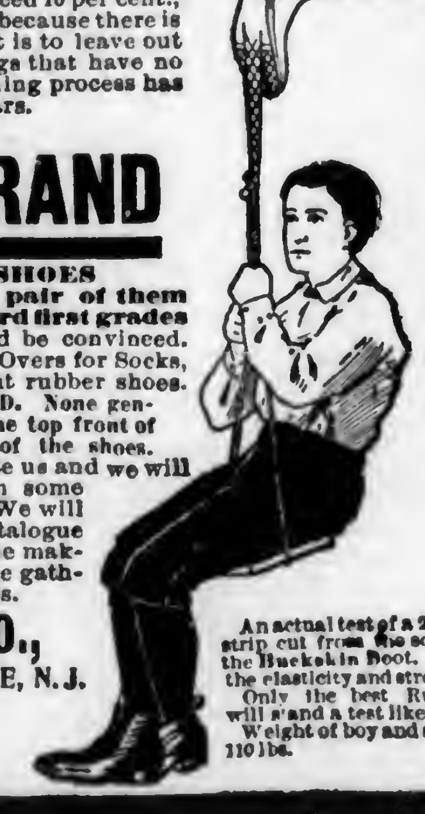

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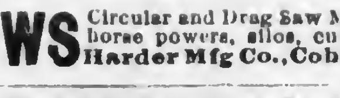

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In this department we publish the Mistakes, Failures and Successes of our subscribers. They are equaly instructive and necessary, pointing the way to success. Subscribers are cordially invited to send accounts of efforts they have made which resulted in failure, as well as those which proved successful. Give in a few words your experience of anything connected with farm or household work. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Only helpful communications of value to P. F. readers will be accepted. The head of the column will be considered the position of honor each week. Send all communications to Geo. T Pettit, Oneida, Kan.

Regularity in Feeding. — When, as well as how and what, is an important consideration in the proper feeding of farm animals. It would surprise the unobservant to note the difference in appearance and capacity for work in animals accustomed to regular feeding and those fed at irregular hours, or, as we might say, "when the spirit moves" their masters. To a sensitive person few things are more distressing or nerve racking than the mooing of the cows, the bleating of the calves and sheep, the squealing of the swine and the restive pawing of the mules and horses waiting for their appetites to be appeased, while those who are supposed to care for the stock are leisurely partaking of a late supper or breakfast. The hours of feeding should be determined by circumstances, and the work which the animal does, if any. But whatever the time chosen, the feeding should be done as nearly as possible at the same hour each day, but when a change in time has been made, it should be adhered to daily. Too early feeding is sometimes as unwise as too late. All that can be said in favor of regularity in time of feeding can also be said of watering stock. WM. LEA.
Austell, Ga.

Planting Spring Crops Early.—I find it profitable to plant the spring crops as early as the weather and soil will permit. All garden crops do a great deal better if planted early, as they go more to fruit and vegetable than to top. The past season I noticed that the few oats that I and my neighbors got in early (March) made from 50 to 70 bushels per acre, while the later seedings made from 35 to 45 bushels per acre. The early planted corn for about a month seems to be stunted and not growing fast enough, but during this time it is making strong roots, and when the late corn is planted it grows too rapidly for its root development. Thus the early planted corn has short, stout stalks with good, heavy ears, while the late planting is more apt to produce tall, slender stalks with long, slim ears, and the corn not as sound as the early planting. I got in quite a lot of early corn, oats and garden stuff last spring and consider it far ahead of later planting.
Bunker Hill, Ill. M. H. LANCASTER.

Birds and Fruit. — Last year the birds were very destructive in Lancaster county; in fact, I never before knew them to be so bad. We had become accustomed to them eating our early cherries, but this year they destroyed the late ones also, and took most of our mulberries, raspberries and blackberries. We had expected to pick bushels of these. The robins seem to be the worst, although the blackbird and sparrow are bad enough. The last named we are allowed to shoot, but not the others. I heard of a farmer being fined $40 for shooting four blackbirds, so it seems we are not to be allowed to protect our own property. What are we to do to save our fruit? The grapes we can bag, but how about the other fruit?
Ronks, Pa. J. F. BEILER.

Intensive Farming.—Last spring I selected a field of fair clay land and applied a good coat of stable manure; plowed and worked the ground into fine condition and planted corn. For every gallon of corn I mixed in about a pint of sorghum seed. On one portion of the field I followed the planter with a one-horse drill and put in soy beans and pumpkin seed at the rate of four quarts of beans and one pint of pumpkin seed to the acre. All were given thorough cultivation. The corn did not come up so well where the soys were planted, probably because the drill pushed some of the corn out of the ground. When gathered the rest of the field made 54 bushels of corn to the acre, while this plat yielded 46 bushels of corn, 2 bushels sorghum seed, 9½ bushels soy beans and one load of pumpkins to the acre. At the prices these sold for last spring, we have 54 bushels of corn at 70c., or $37.80, as against 46 bushels corn at 70c. ($32.20), 2 bushels sorghum seed at $2.25 ($4.50), 9½ bushels soy beans at $1.80 ($17.10), and one load of pumpkins worth $1, making a total of $53.80, or a difference of $16 per acre in favor of the mixed crop. Aside from the imperfect stand caused by the drill, the beans did not affect the corn in the least, and being a legume, they will benefit next year's crop. "Less farming and more of it," will be my motto hereafter. W. F. ELTZROTH.
Morrow, O.

[Of course the expense of gathering and handling the mixed crop would be a little more than for the corn alone.—ED.]

Raising Hogs.—Hogs have always been a profitable side issue upon the farm. They live so cheaply and mature so quickly that there is always a good margin of profit. Soon after the war the stealing of hogs became such a constant source of loss to farmers here that very many gave up raising them entirely. Having once fallen into the habit of buying meat, a large part of the farming population have continued to do so. Every farmer should at least raise his own home supply; he can raise it for half what he pays for it. The cost of growing the hogs will depend somewhat upon the management. If care is taken to provide good pastures of Bermuda and then arrangements made to supplement these with suitable forage crops, the expense of growing hogs will be but little. Patches of peanuts, cow peas, sorghum, sweet potatoes, etc., may be so arranged that they will furnish a constant supply of cheap food all through the season. The old idea of feeding hogs entirely on corn has given way to newer and better methods. Growing a succession of such crops as those mentioned above, makes it possible to have for the killing, fine hogs that have cost but little. L. E. KERR.
Hurricane, Ark.

Feed and Care of Swine.—Feed and care have more to do with success or failure in the swine business than some people suppose. Hog raising, or in fact any other branch of business, cannot be conducted on a haphazard plan and make it a financial success. In order to secure an ideal hog the selection and judicious mating of breeding stock is the all-important item and the one that receives too little attention on the part of many of our farmers. A clean feeding floor, slightly elevated, is the cheapest place for hogs. It is easily kept clean and will save much feed that would be wasted if fed on the ground. B. WEIRICH.
Whiteson, Ore.

Harrowing Corn After Planting.—Where one has a hilly field for corn I find it is a good plan to harrow the field right after the corn is planted, using a smoothing harrow, to level up the furrows left by the planter so the soil will not wash so badly, since it cannot follow the planter tracks to wash out the corn. Then, too, in a season which is dry after planting, as the past season was here, this additional soil on top of the corn helped to keep it moist, and in such harrowed fields the corn came up right along, while in the other fields the seed laid in the ground nearly three weeks before a rain came to sprout it. This late corn was not so well eared and there was more soft corn than where it came up right after planting. J. NEWTON GLOVER.
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U S U S U S

98½ POINTS
Highest Score at any Dairymen's Convention
this season, was received by butter made from cream separated by a U. S. Separator at the Vt. Dairymen's Meeting, Rutland, Jan. 6–8, '03.

THE U. S. SEPARATOR WINS HIGHEST HONORS AT MANY OTHER STATE CONVENTIONS

New York, JAMESTOWN, Dec. 9-12, '02.
THE HIGHEST SCORE - - - - 98 POINTS.

Maine, WATERVILLE, Dec. 3-5, '02,
HIGHEST, SECOND HIGHEST AND THIRD HIGHEST SCORES.

New Hampshire, LITTLETON, Dec. 2-3, '02,
HIGHEST IN DAIRY TUB, DAIRY PRINTS AND CREAMERY PRINTS.

Nebraska, LINCOLN, Jan. 22-23, '03,
HIGHEST SCORE OF ALL.

Buy the U. S. Separator if you wish to make the Best Butter.

For Western trade we transfer our Separators from Chicago, Minneapolis and Omaha.
Address all letters to Bellows Falls, Vt.
VERMONT FARM MACHINE CO., Bellows Falls, Vt.
297

U S U S U S

AN INTERESTING ADVERTISEMENT

AND WHAT WILL COME OF IT

In a recent issue of a very prominent publication, I published an advertisement which reads as follows:

"A SAFE INVESTMENT: Those who have modest sums saved for a rainy day, and who don't want to lose in uncertain ventures, yet who are willing to investigate an enterprise, that is conducted on honor and with every guarantee of certain profits, will learn something of interest and to their profit by addressing E. M. Armstrong, Chamber of Commerce building, Chicago. Gilt edge references in abundance."

I received a number of inquiries in answer to this announcement. The advertisement states nothing about the character of the investment, for I depended entirely upon the faith that the readers had in the publication, and confident that they would understand that no advertisement that had behind it any unreliable or improper motive could appear in the columns of this paper for any money and I wasn't disappointed in the result.

To tell you in an advertisement all about the investment in which I am interested would take too much space and cost too much money, but I will say this, that it is one of the safest investments that has been recently offered to the public and it will bear the most rigid investigation, and will pay those interested large profits for many years to come, at least calculation twenty years. I, myself, have invested practically all that I have in the world in the enterprise. It involves tens of thousands of dollars on my part and will make me very wealthy. A limited amount of stock is offered for sale by the directors and a few investors can be accommodated.

It is an enterprise that is endorsed by many of the most reliable and best posted business men in the country. The members of the Directory Board comprise men who would not under any circumstances allow their names to be used in connection with unreliable ventures.

For the Stock You Would Send Your Money to One of the Soundest Banks in the West

who is the depository of the company. These points I mention that you may appreciate that the enterprise is on the soundest basis and that you would be doing business with parties whose statements are reliable.

It does not matter whether the amount you have to invest is $50, or $500, or even more. This proposition will repay you many times for the trouble of writing for further particulars and for your convenience I attach a coupon, which please sign your name to and address to me in an envelope under a 2c. stamp. If you do not wish to mutilate your paper you need not cut out the coupon, but address me by letter or postal.

E. M. Armstrong, 49 Chamber of Commerce Bldg., Chicago, Ill.
Dear Sir: Please send me full particulars of the reliable investment. It being understood that I am under no obligations to invest unless I choose to do so of my own free will.

Name..

Address..

E. M. ARMSTRONG,
49 Chamber of Commerce Bldg., Chicago.

Strawberry Plants and Seed Potatoes.
How to Grow Biggest Crops. Finest Fruit.
DESCRIPTIVE CATALOGUE FREE.
Send for it. Bargains in New Varieties.
FLANSBURGH & PEIRSON, Leslie, Mich.

PLANT POTATOES.
Dibble's Northern Grown Seed Potatoes will produce better, smoother potatoes and more of them than any other potatoes you can plant. Grown in virgin soil in the cold north, and stored in specially constructed cold storage potato houses. Ready for shipment at all times without danger of chilling or freezing. All kinds and varieties—early, medium and late. Any quantity. We are headquarters for Seed Potatoes. Our warehouses and cellars have a capacity of over 100,000 bushels or 200 carloads. Write for catalogue. Ask also about our *Seed Corn and Seed Oats.*
EDWARD F. DIBBLE, Seed Grower, HONEOYE FALLS, N. Y.

Strawberries.
Delicious fruit and lots of it, fresh from your own garden by following our new method of culture and getting our Home Garden assortment of plants. 36 plants will fill a bed 10 feet square and produce sufficient fruit for an ordinary family. Sent with directions for culture, for only 60c, charges prepaid. Ask for prices in quantity. Large illustrated seed & plant catalogue free if you mention this paper.
IOWA SEED CO., Des Moines, Ia.

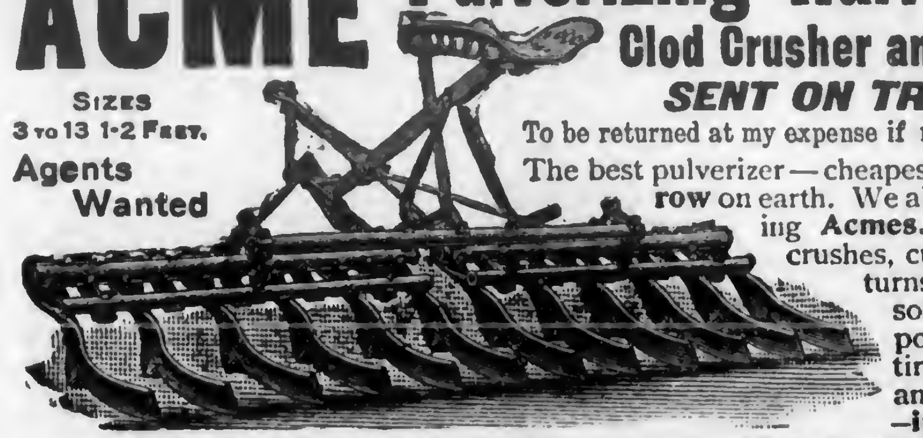
AN ACRE OF CORN
and its possibilities under the Silage system—being the theme of
"A BOOK ON SILAGE"
By Prof. F. W. WOLL
of the University of Wisconsin. Revised and up-to-date, neatly bound into a volume of 234 pages. It embraces full information from planting to feeding the crop, and includes working plans and specifications for building all silos. Also embraces:
I—Silage Crops. II—Silos.
III—Silage. IV—Feeding of Silage.
V—Comparison of Silage and other Feeds.
VI—The Silo in Modern Agriculture,
And illustrations and complete plans for round and rectangular silos, dairy barns, tables of compounded rations, etc. Mailed for 10c. coin or stamps.
SILVER MFG. CO.
Salem, Ohio.

YOU CAN FEED 4 COWS or STEERS ENSILAGE at same cost as 3 on other Rations.
25 to 40 per cent. saved feeding good sweet ensilage. We furnish you STAVES, one piece, full depth of Silo. Our FREE book, "Silos and Silage," has full details, and much of interest to your purse. WILLIAMS MFG. CO., Kalamazoo, Mich.

THE EARLIEST CORN IN THE WORLD
A 20th century wonder—Holmes' Premo—60 days from planting to marketing. The most profitable variety known. Our 1903 Book of Tested Seeds shows photographs taken direct from the corn; also testimonials direct from farmers who have tested it—it is not an experiment. This book contains many more money-making varieties in both vegetable and flower ☞ SEEDS. A book that is well worth sending for. We mail it to any address on request ☞ FREE
HOLMES SEED CO. Harrisburg, Pa.

LONG'S WHITE TARTAR OAT
The Ideal Oat for the American Farmer.
Remarkably early, of robust and vigorous constitution. Immense yielder. Described and illustrated in our Catalogue of this season. 75c. per peck; $2.00 per bush. of 32 lbs.; 10 bush., $1.85 per bush.; 50 bush., $1.75 per bush.; 100 bush., $1.65 per bush.
Our AMERICAN FARMERS' MANUAL for 1903, a book of 44 pages (85 illustrations) devoted entirely to Grass and other Seeds for the Farm, mailed free on application to those who state where they saw this advertisement. Correspondence invited.
PETER HENDERSON & CO., —35 & 37— CORTLANDT ST., NEW YORK.

ACME Pulverizing Harrow
Clod Crusher and Leveler
SENT ON TRIAL
Sizes 3 to 13 1-2 Feet.
Agents Wanted

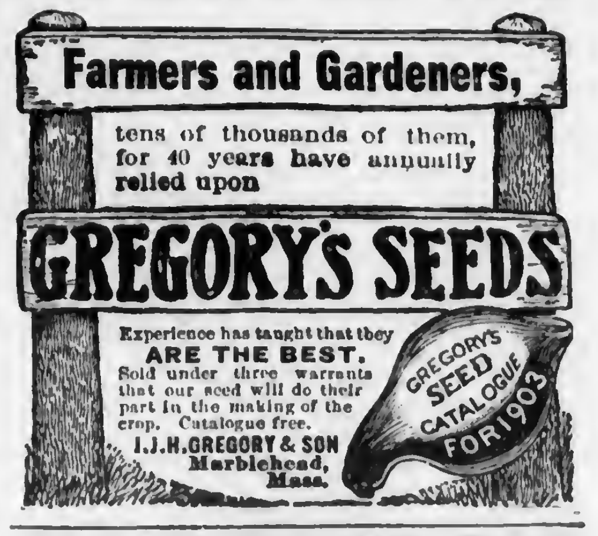


To be returned at my expense if not satisfactory. The best pulverizer—cheapest Riding Harrow on earth. We also make walking Acmes. The Acme crushes, cuts, pulverizes, turns and levels all soils for all purposes. Made entirely of cast steel and wrought iron—indestructible.
Catalog and Booklet, "*An Ideal Harrow*," by Henry Stewart, mailed free.
I deliver free on board at New York, Chicago, Columbus, Louisville, Kansas City, Minneapolis, San Francisco, etc.
Address DUANE H. NASH, SOLE MANUFACTURER - MILLINGTON, NEW JERSEY.

THE DRAINAGE OF FARMING LANDS
Valuable free book mailed to any one interested.
Address JOHN H. JACKSON, ALBANY, N. Y.

WELL DRILLING MACHINES.
Over 70 sizes and styles. Send for catalogue.
WILLIAMS BROS., Ithaca, N. Y.

Patents. Royal E. Burnham, Attorney-at-Law and Solicitor of Patents, 823 Bond Building, Washington, D.C. Booklet on patents sent free.
Patent Your Improvements and Make Money Out of Them.



Farmers and Gardeners,
tens of thousands of them, for 40 years have annually relied upon
GREGORY'S SEEDS
Experience has taught that they ARE THE BEST.
Sold under three warrants that our seed will do their part in the making of the crop. Catalogue free.
J. J. H. GREGORY & SON
Marblehead, Mass.

Growing Ideas
What to grow in the garden. When to grow and how. Modern ideas of agriculture and floriculture for those who plant for pleasure or profit. Illustrated in

DREER'S
Garden Calendar
Sent free to all who mention this paper.
HENRY A. DREER, 714 Chestnut St., Phila., Pa.

BIG BARGAINS IN BUCKBEE'S TESTED SEEDS
TO BUILD NEW BUSINESS we offer the following SPECIAL BARGAINS to readers of PRACTICAL FARMER:
VEGETABLE SEEDS 90 most useful and desirable kinds; together with 10 magnificent Flowering Bulbs; sure to please. 100 VARIETIES IN ALL; A GRAND COLLECTION. POST-PAID, FOR ONLY $1.00
FLOWER SEEDS 15 varieties of the best, most popular, free-blooming beauties, together with 10 wondrously beautiful flowering bulbs......... 25 VARIETIES IN ALL; A GORGEOUS COLLECTION. POST-PAID, FOR ONLY 25c.
RAPE SEED 15 lbs. Buckbee's Wonderful Bonanza Dwarf Rape; or 25 lbs. Genuine Dwarf Essex Rape. You can make no mistake in buying or planting either variety. Rape is the ideal fodder plant for cattle and sheep. By freight or express at buyer's expense, $1.00
SUGAR CANE Buckbee's Celebrated Early Orange Sugar Cane; the best and most nutritious fodder for stock; has a much greater percentage of sugar than any other variety.................... 35 LBS., by Freight or Express, at buyer's expense, only...... $1.00
ONION SEED One pound BUCKBEE'S CELEBRATED LARGE RED WETHERSFIELD, the Best in the World; post-paid, for only $1.00 In lots of 5 to 10 lbs., we offer this grand seed at only 90 cents per pound, post-paid.
FIELD CORN 12 quarts Buckbee's Great Western Yellow Dent; the Largest and Best 100-Day Yellow Corn in the World. 12 quarts Buckbee's Great Western White Dent; the Largest and Best 100-Day White Corn in the World. Or we give you the privilege of taking 24 quarts of either variety for only $1.00. 24 QTS., by Freight or Express, at buyer's expense, only $1.00
OATS (32 lbs. to the bushel). Buckbee's Illinois—the Greatest of all Oats. Yields over 100 bushels per acre. Grain large and weighty. Straw very heavy and of good length. Extremely early. Most profitable oat known. 25 QTS., by Freight or Express, at buyer's expense, only $1.00
TREES 100 CHOICE TRANSPLANTED CATALPA TREES; the most ornamental shade tree.................. 100 CHOICE TRANSPLANTED AMERICAN ARBOR-VITÆ TREES; desirable for hedges or masses. 100 CHOICE TRANSPLANTED SCOTCH PINE TREES; for groves and timber purposes.............. 100 2-year-old Trees, 5 to 6 in. high, post-paid, for only $1.00
All seeds of 1902 crop—Fresh and Reliable. If you are not perfectly satisfied with your purchase upon arrival, return same and we will cheerfully refund your money. Order to-day, and mention PRACTICAL FARMER. Write for our beautiful illustrated 1903 Seed and Plant Guide, describing other attractive bargains. H. W. BUCKBEE, Rockford Seed Farms, Farm 5, ROCKFORD, ILLS.

Hammond's Northern Grown Seed Potatoes Farm and Garden Seeds Lead All.

50c SEED DUE BILL FREE
Send us to-day, your name and address on a postal and we will mail you FREE our handsome Illustrated Seed Catalog containing Due Bill and plan good for 50c worth of Flower or Vegetable Seeds FREE. Your selection to introduce
The Best Northern Grown Seeds
direct from grower to planter, from Saginaw Valley Seed Gardens. Seed Potatoes, Vegetable, Flower, Field Seeds and Plants.
100,000 PACKAGES SEEDS FREE
on above plan. Write quick. Send names of neighbors who buy seeds. $100 cash for best list. See the catalogue.
Harry N. Hammond Seed Co., Ltd.
Box 47, Bay City, Mich.

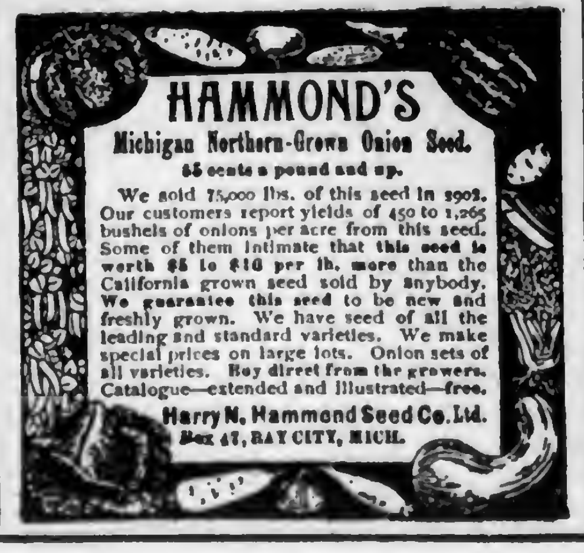
Seed Corn
$1.00 bu. and up
Michigan Northern Grown is the earliest and produces largest crops. Hammond's Sixty Day Flint, American Pride, Race Horse Dent and Thoroughbred White Dent are the 4 famous varieties today. American Pride made 197 bu. shelled corn per acre. Fifteen other sorts. 100 page catalogue fully describing these wonderful corns sent on request. HARRY N. HAMMOND SEED COMPANY, Ltd.
Box 47, Bay City, Mich.

Seed Oats
65c a bu. and up.
The cleanest, heaviest, best yielding oats are Michigan Northern Grown. Hammond's Nameless, Hammond's English Wonder, Czar of Russia and Michigan Wonder, the four best varieties. Rust proof, stiff straw, have yielded 220 bu. per acre. Catalog describing these oats and all other farm seeds free on request.
HARRY N. HAMMOND SEED COMPANY, Ltd.
Box 47, Bay City, Mich.

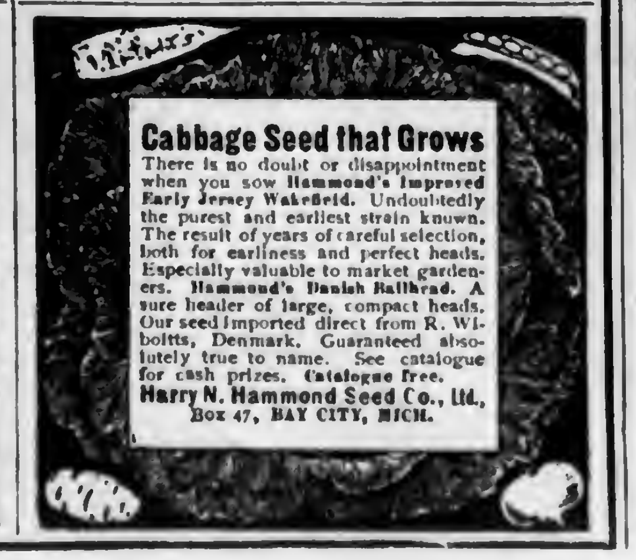
HAMMOND'S Seed Potatoes LEAD

Seed Potatoes
$1.50 a barrel and up.
Michigan Northern Grown are always the best. 15 best varieties. Blight proof, enormous yielders. Highest quality, lowest prices. Sold in any quantity, one pound to a carload. 100-page Catalogue FREE on request.
Harry N. Hammond Seed Co. Ltd.
Box 47, BAY CITY, MICH.
Largest growers in America of Vegetable, Field and Flower Seeds.

Hammond's Seeds Lead
in vigor, yield, earliness and quality. Better cannot be had. Prices very low. We can save you money. Northern Grown always the BEST. Our handsome 100-page catalog of Garden, Field and Flower Seeds mailed free on request.
Harry N. Hammond Seed Co., Ltd.
BOX 47. BAY CITY, MICH.



HAMMOND'S
Michigan Northern-Grown Onion Seed.
85 cents a pound and up.
We sold 75,000 lbs. of this seed in 1902. Our customers report yields of 450 to 1,265 bushels of onions per acre from this seed. Some of them intimate that this seed is worth $5 to $10 per lb. more than the California grown seed sold by anybody. We guarantee this seed to be new and freshly grown. We have seed of all the leading and standard varieties. We make special prices on large lots. Onion sets of all varieties. Buy direct from the growers. Catalogue—extended and illustrated—free.
Harry N. Hammond Seed Co. Ltd.
Box 47, BAY CITY, MICH.



Cabbage Seed that Grows
There is no doubt or disappointment when you sow Hammond's Improved Early Jersey Wakefield. Undoubtedly the purest and earliest strain known. The result of years of careful selection, both for earliness and perfect heads. Especially valuable to market gardeners. Hammond's Danish Ballhead. A sure header of large, compact heads. Our seed imported direct from R. Wiboltts, Denmark. Guaranteed absolutely true to name. See catalogue for cash prizes. Catalogue free.
Harry N. Hammond Seed Co., Ltd.,
Box 47, BAY CITY, MICH.

REPETITION
is the life of advertising—It is also the life of the largest mail-order seed trade in the world—
BURPEE'S!
Were it not for repeat-orders every year from satisfied planters we could not supply the
Best Seeds that Grow
at such moderate prices. We want every one who appreciates quality to write for Burpee's Farm Annual for 1903. Long known as "the Leading American Seed Catalogue," it is better now than ever before. An elegant book of 184 pages, with beautiful colored plates and hundreds of illustrations, it tells the plain truth. Write to-day! Do not delay! It's FREE.
W. ATLEE BURPEE & CO., Philadelphia

SALZER'S SEEDS

SALZER'S BEARDLESS BARLEY

Beardless Barley
is prodigally prolific, yielding for Mr. J. E. Wells, Orleans County, New York, 109 bushels per acre. Does well everywhere. That Pays.

20th Century Oats.
The oat marvel, producing from 200 to 300 bus. per acre. Salzer's Oats are warranted to produce great yields. The U. S. Ag. Dept. calls Salzer's Seed Oats the very best. That Pays.

Three Eared Corn.
200 to 250 bus. per acre, is extremely profitable at present prices of corn. Salzer's New Golden Gate Corn yields 300 bushels per acre.

Macaroni Wheat.
Greatest wheat on earth for arid, dry, hot soils—yields 63 bus. per acre. Introduced by U. S. Dept. of Agriculture. It's a wonder! That pays.

Speltz.
Greatest cereal food on earth—80 bus. grain and 4 tons magnificent hay per acre. That pays.

Victoria Rape
makes it possible to grow hogs, sheep and cattle at a cost of but 1c. a lb. Marvelously prolific, does well everywhere. That pays.

Bromus Inermis
this and Billion Dollar Grass are the two most wonderful grasses of the century. Produce 6 tons of hay and lots and lots of pasturage besides per acre. Grows wherever soil is found. That pays.

$10.00 for 10c.
We wish you to try our great farm seeds, hence offer to send 10 farm seed samples, containing Macaroni Wheat Teosinte, Rape, Giant Clover, Speltz, etc., (fully worth $10.00 to get a start) together with our great catalog, for 10c. postage.

John A Salzer Seed Co. LA CROSSE WIS.

FREE TO ALL HOUSEKEEPERS!

THE "1900" FAMILY WASHER!

GREATEST TIME, LABOR AND EXPENSE SAVING MACHINE EVER INVENTED.

NO MORE RUBBING, BOILING OR WEARING OUT OF CLOTHES.

A Large Family Washing Can be done in One to Two Hours. It is so easy and simple a child can operate it.

The "1900" Ball-bearing Automatic Washing Machine is the simplest, easiest running, most efficient machine for washing clothes ever invented. It is a thoroughly practical labor-saving machine for washing all kinds and grades of materials from the finest laces to the coarsest fabrics. It is constructed on scientific principles. It revolves on ball-bearings, which render the rotary movement as easy as the wheels of a high-grade bicycle. The "1900" Washer will wash any garment without boiling, without scrubbing and without wear or tear. There is absolutely no need of using any chemicals. Soap and hot water are the only necessary things to do perfect work.

The washing is done while the operator sits by the side of the tub, revolving it by the handle.

There is no further need for stooping, rubbing by hand or boiling of clothes. The "1900" Washer will wash large quantities of clothes (no matter how much they are soiled) in from 6 to 10 minutes.

It is not a cumbrous affair, for, unlike so many so-called washing machines, it has no complicated machinery, no wheels, paddles, rockers, cranks, etc.; in fact it is so simple that a child can operate it.

Other machines move the clothes through the water, but this machine forces the water through the clothes, and rubs them at the same time.

The principle upon which this machine operates is directly opposite to that of any other.

SENT ABSOLUTELY FREE

without advance payment or deposit of any kind, freight paid, on 30 days' trial. May be returned free of expense if not satisfactory.

The "1900" Washer will wash collars and cuffs, laces, cambrics and the most delicate materials perfectly clean and positively without tearing them or wearing out a single thread. It will wash blankets, bed spreads and the heaviest clothes just as thoroughly and easily.

THE DRUDGERY OF MONDAY'S WASHING BANISHED FOREVER.

No More Aching Backs, No More Rheumatic Joints, No More Colds and Pneumonia Bending over Steaming Tubs.

HOW IT OPERATES.

The operator turns it to the right and to the left about half way round each time. To make it work as nearly *automatic* as possible it is provided with two oil tempered coiled springs at the bottom of the tub, which engage at each extreme point and help to reverse the motion. The machine moves uninterruptedly until it reaches the point where it should be reversed; then it comes in contact with the force of these springs and, like the action of a rubber ball bounds back, meeting the spring force again at the other extremity.

The clothes are placed in the tub and the disk shown in the cut, which we call the agitator, is placed over them with the wash-board side down. This agitator does not turn, but adjusts itself automatically up and down, regulated by the amount of clothes and water in the tub. Over this a cover is placed to prevent steam from escaping. (See cut below.)

We assert in the most positive terms that any one who gives the "1900" Washer a fair trial will never use the wash-board any more or if any other washer is in use, it will be given up at once. Thousands of pleased customers will bear us out in this statement. Our offer of sending the washer on free trial, freight paid both ways, is a thoroughly honest and sincere one and proves beyond question our faith in its merits. **No one ever returned a "1900" Washer**, that needed one and gave it a fair trial, and no one would part with it for many times its cost if they could not get another.

ABSOLUTE PROOF FROM USERS OF THE "1900" WASHER

$1000.00 Will Be Paid to Any One Who Can Prove That the Following Letters Are Not Genuine:

EAST PLYMOUTH, Ohio, Feb. 2, 1902.
P. O. Ashtabula, O.

We have been using the "1900" Washer since May 15, 1900. Have done over 1,200 washings and I think it is good for as many more. We do family work from Ashtabula. We have used *8 different machines, and the "1900" beats them all for good and fast work and durability.*

GEO. N. BURNET.

HART, Mich., August 25, 1902.

Please find enclosed money order to *pay for my washer in full.* We are well pleased with the washer. A great many people have looked at it. *My mother, 83 years old,* and I, who am a cripple in a wheeled chair, have done our washing in it for the last three weeks. MRS. ALICE ROUSE.

KANSAS CITY, Mo.,
May 14, 1902.

I have given your washer a fair trial. It is the best washer I ever saw. *It has washed our heavy blankets with ease.* I washed them last spring and rubbed more than an hour and yet they had to go through again, but the "1900" Washer cleaned them thoroughly clean. *We do our washing very quick and have no tired and worn-out feeling as of old.* I wish every lady had a washer.

MRS. J. L. BANNER, 4203 Troost Ave.

PEORIA, Ill., Sept. 2, 1902.

I have given the "Washer" a good trial, both with my washing *and bedding. It is the best machine I have ever used for blankets;* in fact, I think it is the best all around washer I ever heard of. I would not do without mine.

MRS. LILLIAN SELLERS.

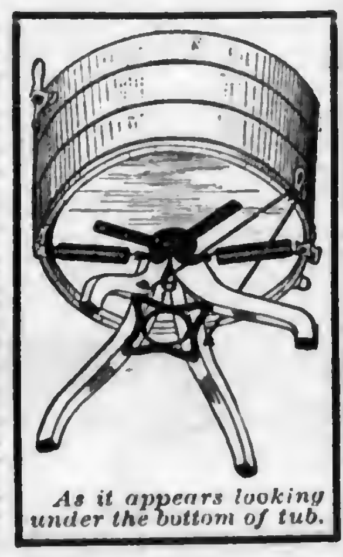
WASHINGTON, D. C., Sept. 8, 1902.

You will find enclosed payment for the "1900" Washer. It fully comes up to our expectations and is all that you have claimed for it. We will take great pleasure in recommending it to all who wish to avail themselves of one of the *greatest labor-saving devices of modern times for domestic purposes.* WM. F. SALTER.

An Endorsement Based on Experience.

In answer to several readers, who have recently written to inquire whether we thought the free trial offer of the "1900 Washer Co." was reliable, we wish to make the following statement: About two months ago the Editor of SUCCESS WITH FLOWERS sent for one of these machines under all the conditions named in the advertisement of this firm. Another resident of West Grove, not connected with this paper, sent at the same time; not a cent of money was enclosed, and it was merely a request to send the machines on trial. In due time the machines arrived, all charges paid, and were taken to the respective homes; the one in the editor's home was given a severe test, that of cleaning two soiled blankets. It stood the test perfectly, turning out the blankets in a few minutes as clean as though never used. For four successive weeks both these machines were regularly used for all washing, including the clothing of little children. To show how easy the machine runs we will mention the fact that much of the "running" of one was done by a little boy of six years. The "1900" Washer is certainly a splendid machine, and a fair trial bears out every statement the manufacturers make. At the end of the four weeks the machines were promptly paid for, as neither of the ladies in question was willing to go back to the old way. This experience warrants us in recommending this machine to our lady readers no matter how many others they may have tried and found unsatisfactory.—*Editor.*

(From Success with Flowers, West Grove, Pa., Jan. 1903 issue.)



As it appears looking under the bottom of tub.

REMEMBER—You take absolutely no risk, incur no expense or obligation whatever. The washer is sent by us on 30 days' trial, freight prepaid going and coming, and positively without any advance or deposit of any kind.

For catalogue and full particulars of this liberal and absolutely genuine offer, address

"1900" Washer Co.

23 K., State St., Binghamton, N. Y.

Postal Card Correspondence.

This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

Located in the Saginaw Valley, 10 miles from Saginaw, the county seat, near the Michigan Central R. R. We have had good sleighing about four weeks, and it has been well used. This section is a loamy soil. The principal crops are oats, corn, potatoes, barley, hay and sugar beets. Prices: Oats, 36c.; corn, 50c.; potatoes, 50c. per bu.; hay, $10 per ton; eggs, 22c. per doz.; butter, 24c.; hogs, 8c. per lb.; horses, $50 to $150; cows, $25 to $40 each; land, $25 to $40 per acre. WALTER H. FOX.
Eastwood, Mich., Feb. 23, 1903.

We are situated in Elkton, the county seat of Todd Co. We have had a very unpleasant winter; two ice spells, with ice 2 and 3 inches thick. December and January were very disagreeable. This and adjoining county (Christian) have fine wheat crops. We have had a great deal of mud and rain; the old people say they never knew the roads to be so bad. Very few roads are piked in this county. Prices: Corn, 50c.; wheat, 70c. per bu.; hogs, 7c.; butter, 20c. per lb.; eggs, 20c. per doz.; potatoes, $1 per bu. Our hens have laid all winter. Land is worth $10 to $50 per acre. NELLIE G. CHERRY.
Elkton, Ky., Feb. 23, 1903.

Located in Newton Co., Mo., on Olivers Prairie, a good farming country. Weather wet and changeable. Farm work greatly delayed. A large acreage of wheat sowed, some of which is damaged by alternate freezing and thawing, some by Hessian fly. Prices: Wheat, 60c.; corn, 40c.; oats, 30c.; cow peas, $1.25; potatoes, 30c.; apples, $1; clover seed, $7.50 per bu.; cattle, 3 to 4c.; hogs, 6c.; chickens, 6 to 9c. per lb.; eggs, 13c. per doz.; horse and mules, $75 to $125 per head; wages of farm hands, $15 per month and board; girls, $1.50 per week; carpenters, $1.50 per day. This county is becoming more prosperous. Many rural telephone lines and several rural mail routes. S. TURNER.
Newtonia, Mo., Feb. 23, 1903.

We live by the State line, 65 miles south of Spokane, in heart of the Palouse country. Elevation, 2,200 feet; climate mild and not oppressive at any season. The country is noted for its yields of small grain and its apples and prunes; both crops are profitable. Soil a black loam with clay subsoil, making it an ideal one for grains. The winter was very mild so far, with but little snow; lack of snow has injured fall-sown wheat to some extent, caused by its being lifted out by the roots. Fruit promises well if not killed later. Prices: Wheat, 60c.; oats, 36c.; apples, 50c.; potatoes, 15c. and no sale; barley, 50c. per bu. Good stock is high. Much fine pedigreed stock from east of the Rocky Mountains was brought into the country last year, both horses and cattle. Hogs are worth 6c., live weight; chickens, 8c.; butter, 20c. per lb.; eggs, 25c. per doz.; land, $20 to $30 and advancing. Immigrants arriving daily from Eastern States. C. M. GRIBBLE.
Palouse, Wash., Feb. 19, 1903.

Situated 20 miles northeast of Columbus. The worst storm of the season lately. Trees are breaking under their heavy loads of sleet and ice. Mud roads about impassable. Had plenty of snow and steady cold weather from Christmas to last of January; since then we have had lots of rain and mud. Feed scarce and high. Hay, $12 per ton in barn; corn, 50c.; oats, 35c.; wheat, 75c.; clover seed, $7 per bu.; fat hogs, 6½c.; beef cattle, 3½ to 4½c.; lambs, 5c. per lb.; good horses scarce and in good demand at $125 to $200; good yearlings, $100; cows, from $40 to $50 per head. Sunbury Creamery Co. paid 33 1-3c. per lb. for butter for December and January, so that good cows are bringing from $5 to $9 per month, and you get your skimmilk back for the pigs. Wheat that was properly put in and fertilized still looks well; unfertilized and on untilled land looks bad enough. We have rural mail delivery, and about half the farmers have telephones. W. L. HOOVER.
Galena, Ohio, Feb. 23, 1903.

Located in Tipton Co., Southwestern Tennessee. Land fairly good and worth $10 to $50 per acre. The winter very mild. Cotton, corn, cow peas and wheat do well; also stock raising profitable. Cotton is the money crop, though many are now diversifying, raising more hay, stock, etc. Social privileges good; free mail delivery since February 2nd. Many negroes have left this section. Crops good last year and prices fair. Prices: Corn, 55c. per bu.; hay, 60c. per cwt.; lint cotton, 7 to 8c. per lb.; butter, 15 to 20c. per lb.; eggs, 15c. per doz.; horses, $60 to $100; mules high, $75 to $150 each; labor, 60c. per day, $10 per month. C. E. SWIHART.
Covington, Tenn., Feb. 23, 1903.

Situated 30 miles south of Cordoba, State of Vera Cruz, Mexico, is the Hacienda Laguna Chica, where we live. We are readers of the P. F., and learn much from its pages. Climate is delightful; only cold enough to be agreeable; straw hats for men and lawn dresses for women are a necessity. Here are raised the far-famed Laguna Chica pineapples which grow to an enormous size from 10 to 18 pounds, and as delicious as they are large. We are eating these and bananas the year around, which do not have to be picked green and shipped a thousand miles or more. Coffee is also raised in great quantities and is worth, now, 25 to 28c. per lb.; corn, $8 per carga, 350 lbs.; chickens, 50c. to $1.25 each; eggs, 50 to 60c. per doz.; potatoes, 7c.; fresh meat, pork or beef, 25c.; lard, 31c.; butter, all shipped in, 75c. to $1 per lb.; black beans, $3.50 per arroba, 25 lbs.; rice, $3 per arroba. These prices all in Mexican, of which it takes $2.60 to equal $1 American money. JAS. M. VERITY.
Tezouapa, V. C., Mex., Feb. 19, 1903.

Selden is located 52 miles from New York City, 9 miles from Great South Bay, and 6 miles from Long Island Sound, making it almost the centre of Long Island. This is a little village of 150 inhabitants, has a nice church and new school house. Farming and poultry raising are the chief industries. Have had a very open winter until now; there are 12 inches of snow on the level, and the thermometer was 10 degrees below zero recently. Prices are as follows: Horses, from $50 to $175 each; oats, 45c.; corn, 75c.; rye, 59c.; wheat, 91c.; potatoes, 75c.; apples, 80c. per bu.; pork, 9c.; butter, 28c. per lb.; eggs, 22c. per doz. CLARENCE DARE.
Selden, N. Y., Feb. 24, 1903.

Very little farm work has been done, owing to rain, which has fallen in great quantities since Christmas. With the exception of one blizzard, the winter has been very mild. First severe weather of the season came a few days ago, when the mercury registered 20 degrees. We have had no snows up to the present time. Provisions continue to be high and prices vary but little. There will probably be an increased acreage in cotton, judging by the guano being hauled. Owing to the great amount of rain recently the roads are very bad, and farmers find it difficult to haul their fertilizer. Horses and mules are exceptionally high, good ones being worth $125 to $175 each; good hogs bring 6c. per lb., gross. A great deal of stock is being bought, which signifies an increased acreage in our staple crops, corn and cotton. Farmers here are thrifty, and are anxious to get to work. ROBT. M. HITT.
Montmorenci, S. C., Feb. 24, 1903.

Located near Clear Lake, and surrounded on all sides by mineral springs, where thousands of people come each summer in search of health. Two string bean canneries and a cheese factory located here. Principal crops are alfalfa, wheat, oats and barley. Corn, wheat, oats and barley, $1.25 to $1.50 per cwt.; beans, 5c.; stock hogs, 5c. per lb.; eggs, 20 to 30c. per doz.; cows, $40 per head; alfalfa seed, 8c. per lb. A. O. WHEELER.
Upper Lake, Cal., Feb. 19, 1903.

Located in the southern part of O. T., in Washata Co., 15 miles from Cordell, the county seat. Land rolling and very fertile. Raise most anything. Our principal crops are wheat, corn and cotton; wheat crop looking fine. Prices: Wheat, 50 to 65c.; corn, 40 to 50c. per bu.; eggs, 12½c.; chickens, $3 per doz.; butter, 10c. per lb. Lots of plowing done. The winter has been very mild up until the 19th. People are getting out of their dugouts and building houses; they are so proud of their homes that it takes good prices to move them. ANNIE BOYDSLUN.
Cowden, Okla., Feb. 19, 1903.

Situated 25 miles south of Springfield and 72 miles north of St. Louis, on the C. A. R. R. Coal mining carried on extensively; are securing all the coal within 3 or 4 miles of R. R. Money crops are corn, wheat, oats and grass. The past season was rather wet for corn, but had a fair crop, with some corn still in the field, on account of much rain and mud since New Year. During February and considerable snow; mercury 5 to 8 degrees below zero. Wheat is worth 70c.; corn, 38c.; oats, 30c. per bu.; hay, timothy and mixed, $9 and $10 per ton; butter, 20c. per lb.; eggs, 15c. per doz.; horses, $75 to $150; cows, $25 to $50 each; fat hogs, $6.50 per cwt.; stock hogs, 7 to 8c. per lb.; farm hands, $20 per month; girls, $2.50 per week. J. W. HARSHBARGER.
Girard, Ill., Feb. 23, 1903.

Located 6 miles from Berryville, the county seat of Clarke Co. Surface varied by hill and dale. The soil is black loam along the streams, while the uplands are mostly limestone and black slate; land all adapted to the raising of wheat, corn, oats, barley, rye; in fact, all small grains and grass, also all kinds of orchard fruit and garden vegetables. Most farmers here stored their summer's supply of ice, from 3 to 5 inches thick. We have had a very mild and rainy winter thus far, excepting a few cold snaps. Wheat looks well. General health is good. Prices of produce are as follows: Wheat, 75c.; corn, 50c.; apples, 60c.; potatoes, 50c. per bu.; butter in print, 15c. per lb.; eggs, 14c. per doz.; beef cattle, 4c.; hogs, 6c.; chickens, 8c.; turkeys, 12c. per lb.; cows, from $12 to $30; farm horses, $50 to $125 per head. Very little hay for sale, owing to the dry season last summer. All feed scarce, but stock looks well. The P. F. is still much looked for and enjoyed. J. H. DUBLE.
Wickliffe, Va., Feb. 24, 1903

"Short Treatise on Value of Land Rolling."

A little booklet of much interest to farmers will be mailed to any address upon application to The H. P. Deuscher Co., Hamilton, Ohio.

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THE KEYSTONE TO SUCCESSFUL FARMING

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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

Do You Want to Own a Gold Mine; to Grow 5 Tons of Wheat Bran Per Acre?

Years ago, when J. E. Wing was first a cowboy and then a ranchman, in Utah, he sent his father in Ohio about a pound of alfalfa seed. The father was a farmer. Joseph had succeeded finely in growing alfalfa where he was and found it a wonderfully good feed for animals. He wanted his father to try it on the old home farm, and sent glowing accounts of what it would do for them if it could be made to thrive. The father sowed the seeds on a small piece of land. Some time afterwards the son came home. After seeing his mother and father and sweetheart he went out where the alfalfa seed had been sown. His father saw him going and followed along. They came to the patch. The plants were small and sickly looking, with scarcely any leaves on them. The father said, "You see, my boy, that your wonderful plant is no good here. It won't grow in this soil and climate." "Joe" says he felt about the same way, too, and was greatly disappointed. Just then some hens came along. They marched through the little, weak alfalfa plants and picked off every leaf that had grown since they were there before. The father saw nothing, but the son said to himself: "Ah, may be success isn't so far away as we thought. Hens are very fond of alfalfa and they have kept these plants stripped so they could not thrive. Now let us see about this." He got an old barrel without any heads and put over one plant. This to keep the hens away from it, only. Then he brought about a barrel of water and poured around it, as it was a very dry time. Nothing was said to the father. In three or four weeks that plant was above the top of barrel, strong and thrifty as one could ask for. Joe called his father. "There; see. Tell me alfalfa won't grow in Ohio." "Boy," said the old gentleman, "do you suppose I want to grow a crop that I must put a barrel around every plant in order to make it thrive? Away with your nonsense?" Joe is a thinker and a man with a determined will. He said quietly, to himself, if I can make one plant thrive I can cover the farm with fields of luxuriant alfalfa; it is only a matter of making conditions right all over. In this way was the first success made with alfalfa and as a result probably more than 100,000 acres have since been put out. The next year Mr. Wing sowed perhaps one-third of an acre. It did well. Then he put out about three acres more. This happened to be on three different kinds of soil. There was a dry, rich, gravel knoll, and some poor clay soil, and then a low, wet place. On the dry, rich land the alfalfa succeeded finely. On the poor clay the plants were small and spindling and evidently would never amount to anything. On the wet land the crop was a failure. And here the wonderful will power of the man shone forth. He said to himself, "All right; I see. I am not going to get alfalfa growing all over as soon as I thought, but never mind. It is coming. I will tile drain the wet places. I will manure the poor land and make it rich enough to grow the crop. Alfalfa I will have, and big crops of it, all over. He went to buying and hauling manure. About that time Terry was called to an Institute in the town where Mr. Wing lived. He told what clover had done for him. Mr. Wing and his "sweetheart" (they were married then) came in. This was some thirteen years ago. Well does the writer remember this meeting in the basement of a church. Wing drank in every word. He said to himself: "That is the thing; I can't haul manure enough to enrich all this run-down land. Red clover will help me to get the land fertile enough to grow alfalfa." So he deserted his first love, almost, and strained every nerve, and his credit, too, in draining the wet land and making red clover grow. It takes richer land to start alfalfa. Soon he got acre after acre all dry and all rich, and then great fields of alfalfa growing as told of recently.

What has this done for friend Wing? Don't you see? As he puts it, it has crowded all the poor land off his farm. It has crowded the line fences back until his farm is much larger. He says it is better than a gold mine; and it is a gold mine most any farmer can have if he will work as hard for it. The farmers in Mr. W.'s section are short of hay. As a result, their stock has done very poorly. Some of them have lost money. On Mr. W.'s farm all animals are thriving wonderfully. He has no end of hay Lately he sold a carload, for $15 a ton, alfalfa hay. What does this mean in the way of profit? Seventy dollars an acre clear net profit, he says. Remember they cut some 350 tons of this hay last year. Mr. Wing tells of paying the miller $600 for wheat bran one year, a while ago, and how he thought, if he could only have that money, instead of having to pay it out for feed. He has it now, and far more, and his beef animals, lambs, pigs, etc., do just as well. The alfalfa hay is so rich in protein that it is just about as good as wheat bran, ton for ton. Fed with corn, stock scarcely want anything else. This crop is not a new one by any means. In fact, it is almost as old as the hills. They had alfalfa in the time of Christ. Now let us compare it with timothy. Over much of the country timothy is the main hay crop. In Central Ohio, where Mr. Wing lives, the first crop of alfalfa is ready to cut about June 1. It starts very early. The first crop will usually be a large one, because there is not likely to be any scarcity of water then. About July 4 the timothy will be ready for the mower, and at the same time there will be a second crop of alfalfa. This may not be so heavy, if weather is dry, but should be cut just the same. In 35 days the third crop will be ready to cut. Meanwhile the timothy field, which has given but one crop, will usually be all dry and brown. Still again, in latitude of Central Ohio, will the alfalfa need mowing and then some fall pasture after that; four crops instead of one. From two to three times as many tons of hay per acre. The hay contains almost exactly the same amount of carbohydrates and four times as much protein as timothy, ton for ton. Yes, I mean it, four times as much. From eight to twelve times as much protein per acre! Think of it. And point out anything in this report, or these figures, that is overdrawn, or not accurate, if you can. Verily Mr. W. has a gold mine on his farm. You say: "But if I must make my land rich for alfalfa, why bother with it then? I can grow other crops then." Surely; but you have only to make land rich once to start the alfalfa. Then it will bring you these large crops of such valuable feed for a dozen or more years, perhaps, and when you plow it it will still be richer than before you began growing the crop. It enriches the soil the same as growing red clover, perhaps still more. Whereas, the other crops would exhaust the fertility soon, unless you put manure back. The alfalfa does not. It can take care of itself when once started. And in most sections will not, say 5 tons of such hay per acre (5 tons of wheat bran, practically) be worth more than any other crop you can grow? This is no theory. Our Experiment Stations have analyzed the crop and given the figures. Mr. Wing, and some others, have grown the crop and proven the figures correct in actual practice. The object of this article is to awaken an interest in this wonderful crop; to encourage the opening of a gold mine on every reader's farm. Go slow. Put out but little at first. Be sure you get seed that will be hardy with you. Follow exactly every direction given in these columns two weeks ago. One more precaution; don't sow until danger of hard freezing is over, May 1 in Central Ohio. Useless to write to me for further particulars; all have been given.

Health Hints.—Does Not Want to be Bald.—Nearly two years ago I wrote concerning the care of the hair. Every day since I have systematically cared for my own. What is the result? well, certainly it is not any thinner than it was two years ago. And there never has been a particle of dandruff on my coat collar, nor head. These are results worth working for certainly. Up to three or four years ago my hair had been neglected. It was washed occasionally, of course, and brushed or combed, but there was no studied effort to take the best possible care of it. All of a sudden I woke up to the fact that it was going fast, that it was dying and coming out, and already thin on top of my head. I did not want to be bald, so at once went to work to care for my hair systematically and rationally. Every morning it has been brushed thoroughly for some two or three minutes. The brush used has long and rather limber, soft bristles. It is used every which way, all over the head, vigorously enough to make the scalp warm, but not so as to cause any soreness. The object is to draw the blood there freely. This helps to give new life to the hair. After the brushing, when taking my morning cold bath, the head is thoroughly bathed in cold water. This also tends to draw the blood to the roots of the hair. Through the day I am careful to not wear a hat except when out of doors; to have a use for nature's covering, when still practicable. Then again I wear only a soft hat, and take pains to have it as loose on the head as possible and have it stay on. When obliged to wear a hat I lift it often and let in the air, perhaps carrying it in the hand a moment before replacing it. The hair was growing thin partly because the head was protected so much by a hat that nature's covering was no longer needed. And then the pressure of the hat around the head kept the blood from circulating properly. This would be particularly true of a stiff hat, or of any hat that was drawn down tightly. So far as practicable I have tried to change these conditions, regularly, with the result that the hair is now about holding its own. With sense enough to have begun a few years sooner a heavy head of hair might have been kept. It is not very thin yet, and I do not intend to let it grow materially less in quantity. In addition to the daily cold bath the hair is washed once a week with pure soap and soft water (when it can be had—am in alkali country now). I use Pear's soap. All this may seem like too much work for some, but I have got so I do it automatically.

Distilled Water.—Rain Water.—L. A. Coblentz, Jordan, Ind., writes that hard drinking water does not agree with him, and he would like to learn about stills for purifying water, their cost and whether it is advisable to use them. A small copper still for use on the stove can be bought at retail for $8, a tin one for $5, I think. They work by simply boiling the water until it is changed into steam, and this steam is condensed and saved for use. No mineral matter will rise in the steam, so the distilled water is practically pure. Under some circumstances it is a very important matter to be able to take foul water and make it pure and fit to drink. But distilled water is a peculiar fluid. Some scientists claim that it is not suitable for regular drinking. I am inclined to thing it is all right for elderly people. Certainly I would try it if hard water disagreed with me and I could get no other. But situated on a farm, as I suppose you are, you can certainly do better. It is a good deal of trouble to evaporate all the water you want to drink, particularly in summer when one does not have much fire. Now rain water, when it come from the clouds, after the first few moments of a shower, is pure, soft water, just as free from minerals as any distilled water. Why not build a cistern, put in a brick wall for a filter, dividing cistern so water runs in on one side of wall and you pump out on the other side? Then have the conductors arranged so you can turn water off a short time when it begins to rain, and then let it go into the cistern. Clean the cistern once in a year or two, according to fuel burned, cleaning both sides of filter wall. Then you will have pure, clean, soft water, as good as can be made with any still. Yes, better, for it has been distilled by nature and aerated perfectly on its way down from the clouds. We drink cistern water at our house, usually as clear and tasteless and sparkling as any spring water. In the summer we do not put ice in the drinking water, but around the outside of cooler, so any impurities in the ice cannot get into the water. Having a deep cistern, filled in cold weather, the water will be fairly cool all summer without ice.

T. B. Terry.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can

Pasturing Pigs on Rye. — J. W. Davis, Carrollton, Ky.—"I have 20 acres of rye which is very nice. I have 30 hogs that will weigh 150 pounds. I am going to turn them on as soon as the ground gets a little more settled. Also have two sows, one with 11, the other with 9 pigs, about a week old. Will it be safe to turn the sows with young pigs on the rye and will it hurt to turn them on wheat? The neighbors say that the green food will give the pigs scours and kill them." The large hogs will get no harm from running on the rye pasture, but we think it might be dangerous for young pigs, until after they have been weaned and have some grain.

Ginseng.—G. A. Kinney, Coulterville, Ill.—"Please inform me where I can get some information about ginseng." The Pennsylvania Agricultural Experiment Station has recently issued a bulletin on ginseng. Possibly you can get a copy by writing to the Director of the Pennsylvania Experiment Station, State College, Pa. It is possible that there may be some profit in the cultivation of this plant, but we would advise all to go very slow with it. For our own part we had rather grow wheat, corn and cattle for profit.

Top Dressing Meadow.—Lime.—H. T. Potter, Far Rockaway, N. Y. — "Will 1,500 pounds of wood ashes and 250 pounds of nitrate of soda per acre make a top dressing for meadows which are in need of some kind of fertilizer? How does lime enrich the soil? I have a farm in Sullivan county that is considered wet and the hard pan is only about a foot from the top. If we use one and a half tons of lime to the acre we get splendid results, I think better than manure. The farmers in that section claim that deep plowing is not good as the soil is too cold, though there are farmers there who get good crops for ten years without any manure, the ground is so productive." Mixing wood ashes and nitrate of soda will result in a mere waste of nitrogen, as the lime in the wood ashes will tend to carbonate this and make it volatile. One thousand five hundred pounds of wood ashes of good quality would doubtless help the grass, and 250 pounds of nitrate of soda applied afterwards would also have a marked effect, but we would not mix them before applying; 250 pounds of nitrate of soda is rather heavier than we would use; 100 pounds is usually a fair dressing. Lime does not enrich the soil at all. Of course, some lime is necessary to the growth of vegetation, but there is hardly any cultivated soil that has not already enough lime for this purpose. Lime simply renders available matters already in the soil and enables plants to get them and a continued application of lime to the land, with the idea that lime is a manure, will finally result in the impoverishment of the soil. The old proverb was founded upon wise observation: "Lime enriches the father and impoverishes the son." Lime used occasionally with the growing of leguminous crops and systematic farming is a great advantage, but the man who imagines that lime makes the land rich will, ere long, find out that it makes land poor. If that Sullivan Co. land were deeply underdrained it would pay to plow deeply and to subsoil the hard pan, but without the deep draining subsoiling would do little good.

Hogging Peas. — J. W. Rodeffer, Good's Mill, Va.—"What do you think of sowing cow peas and turning hogs on them in the fall? My object is to start the hogs to fattening before corn is ready. What kind of peas should be sown? Would you drill them or sow in rows and cultivate them? What time should they be sown here in Rockingham Co.? I want to turn on them from the first to the middle of August. One of my neighbors has the Big Black and thinks they will do. I can get the Whippoorwill here, too. How much and what kind of fertilizer should be used?" It seems rather odd that a Virginia farmer should be at all uncertain in regard to the value of peas for hogging down. The practice is not only valuable for the hogs, but for the land as well. In no way you can adopt can you make more or cheaper pork than with peas. It would be well to have more than one lot for turning in. Sow one with a very early pea like the New Era or the Early Black Eye about the first of June. On a warm soil, if sown in rows and cultivated, these should be ready for the hogs the first of August. Then sow another lot with the Whippoorwill at the same time. These will come in by the middle or third week in August. Sow a third lot with the large Black at same time with the others and they will run the hogs from the last of August till time to put them on corn for finishing. You can sow them broadcast at rate of about one bushel per acre, or in rows with less than half a bushel. We believe you will get more peas in rows, cultivated. If the land is strong we would use no fertilizer at all. On very thin land it will be well to apply a good dressing of acid phosphate and potash, say 250 pounds of acid phosphate and 50 pounds of muriate of potash per acre. Once get started with some hog lots for peas and you will never give it up. With another lot sown in crimson clover, or one of the early pea lots used for that purpose, you can have the earliest hog pasture, that will keep them going finely till red clover is ready, and then the lot can be put in peas. After a while the lots will get over-rich and must be worked in corn for a while and the peas changed to other land.

Uncut Silage. — J. G. Huston, Mena, Ark.—"Can I fill a silo with uncut corn or other plants and have the silage keep? I do not want to go to the expense of a cutter and power and cannot hire a power here. I built a silo last fall and filled it with corn and cow pea vines. It moulded badly, especially on the edges, but the cows ate it. I have a bank of sawdust on my place. Will it make good manure when well rotted? Are pine ashes good for fruit trees?" There will always be loss enough in the effort to fill a silo with uncut corn to pay for the cutting of it. Then the extra labor of getting the stuff out when not cut, is very heavy. An ordinary tread horse power and a small cutter will not cost a great deal, and you will soon lose enough to pay for them if you keep trying uncut silage. Some time in the far future that sawdust may get decayed enough to help vegetation, but even then it will hardly be worth the labor of hauling. If you had some way to burn it it might do to use the ashes. Pine wood ashes will help fruit trees.

Creosote in Chimney. — E. Rayner, Goshen, N. H.—"I have two chimneys, one in the kitchen and one in the centre of the house. The one chimney forms no creosote; from the other the stuff trickles down all over the house, and the stovepipes that lead to it drip black hideousness. Can you tell me if there is any remedy? Local authorities can give no reason for the different action of the two chimneys. If any of the readers of the P. F. can tell me a remedy for this nuisance I shall be very grateful." We are of the opinion that in the chimney that gives the trouble there are long pipes leading to it and the smoke gets cold and the condensation of the vapor takes place, while in the other chimney the kitchen fire keeps the flue too hot to allow the distillation. Anything that will make the flue hotter will prevent the trouble, we think.

Fire-Fanged Manure. — B. Turner, Augwin, Cal.—"Manure has been put in a heap, and under the first few inches is white and mouldy looking. Is it all right, or is it what is called fire-fang? Some people tell me that it always gets that way before decaying." Yes, the manure is fire-fanged, and has lost a great part of the ammonia, though the phosphoric acid and what little potash it had, are still there. The manure, while not worthless, is not worth what it was before it was allowed to get into this condition. People tell you that it always gets that way, because they have always neglected to make it better, and a neglected manure heap will always fire-fang. If the accumulation had daily been mixed with some acid phosphate and kainit the heating and volatilization of the ammonia would have been prevented. Even a liberal mixture of plaster would have the same effect. In the absence of these, and, in fact, always when practicable, get the manure out and spread it on the land as fast as made. There will always be some loss when manure is kept in a pile, no matter what we add to it, and it is safer when spread on the land than anywhere else.

Ruby King Pepper. — J. M. Jarvis, Winston, N. C.—"In 'Notes from a Carolina Garden' in P. F. of Jan. 17th, you say that the Ruby King was far hotter than the Bull Nose pepper. Did you mean to say that, or was it a slip of the pen or mistake of the printer? I have been growing Ruby King for several years from seed purchased from Wm. Henry Maule, and find nothing hot about it, even when ripe. Chinese Giant is also a mild pepper, larger but inferior in quality to Ruby King. Our customers prefer the Ruby King." We meant just what we said. The past summer here the Ruby King was uncommonly hot, and our folks all complained of it when made into stuffed pickles. It was suggested to me by my wife today, that perhaps it was due to the Tobasco peppers in the row alongside, and that perhaps the crossing of the blossoms with this intensely hot pepper may have affected the Ruby King. The Tobasco certainly has heat enough to spare. This year we hope to grow them separately and not near each other, and note difference.

Cleaning Clover Seed.—M. E. Shirk, Sterne, Pa.—"Please tell me how to get plantain seed out of clover seed." You are a little too hard for the Editor. We never tried to get it out, but always rejected any sample in which we found plantain seed, for we preferred that the dealer should clean his seed. An extra blast of the fan or a special screen may accomplish it. Clover seed is certainly well cleaned by the seedsmen who value their reputation, but just what means they use we are unable to say, and hope that some of our readers may know more than the Editor does.

Timothy in Idaho. — F. L. Fatherston, Cambridge, Idaho.—"I am going to sow timothy this spring. Will it injure the timothy to sow wheat with it to cut for hay?" The wheat will be no material injury, though we think the grass might be better without it.

Alfalfa in Penna. — F. S. Schade, Monaca, Pa.—"I have 4 acres of high, dry land, sloping northwest; one acre is slaty on this slope. The other three acres lie to the southeast, and soil is a clay loam. The land is of fair fertility and will make 20 bushels of wheat per acre or 75 bushels of corn without fertilizing. I want to sow it in alfalfa. It was sod last fall and is now in wheat. When wheat is cut I propose to plow it well, and in the fall sow to rye. In the following April I will turn this rye under deeply, and put 20 to 25 bushels of lime per acre, prepare the land well, and when the ground is warm will sow 15 pounds of seed per acre, and work it in with the weeder. Then will clip it several times during the summer, and will mulch the cold N. W. slope with straw, and all of it if I can." Your plan is a fairly good one, but you had better use much more seed than 15 pounds per acre. We would never sow less than 20 pounds, and more will not be wasted. Then do not defer the sowing till the land is warm, but sow as early as you can get the land in good order. Then do not mulch too heavily. A slight straw mulch may do no harm, but a heavy one will be worse than none. Alfalfa is a very hardy plant, and if you get it through the first summer you may count on success.

Seventeen Year Locusts. — P. L. Smith, Chesapeake, Mo.—"I once had a young orchard destroyed by the locusts, and I think of planting another this spring, but we are expecting the locusts too. Could you give me any preventive that may keep them from destroying the trees?" We wish we could. If the locusts are due with you this summer you had better defer planting orchard.

Potatoes in West Virginia. — W. L. Blosser, Stewartstown, W. Va.—"I want to use commercial fertilizer on early potatoes. What is the best way to apply it, broadcast or in the row?" We always apply the fertilizer in the furrow for potatoes. They do not make widely extended root systems like corn or cotton. We run out furrows the distance we want the potatoes, scatter the fertilizer in these furrows and then lap two furrows over this. Then we again open the furrow for planting, and lap the furrows again. This to get the fertilizer well mixed with the soil.

Farming in S. E. Mo.—Rev. C. Moenig, New Hamburg, Mo.—"I have 50 acres of land, 30 of which have been cultivated many years and are poor; 12 acres are new land with many stumps. Soil clay, which washes badly. Have had a man working this land for three years, and he has never made half his wages though he works hard. I have two horses, two mares with colt, five head of cattle and four sows with pig, to come in April. The money crop here is wheat. I think the man should make his wages with what he has at command. My plan is to go into the hog business, using Prof. Henry's methods. What do you think of it? The new land I wish to put in corn, with 10 acres that were in peas last year. This piece I want to make a hog pasture of. Ten acres that were in corn last season, with peas between, I will put in oats. Oats do not do well here as the season is short; I will try the Gray Turf Winter oats next fall, on land that will be in peas this summer. Peas do well here, but there is great complaint about curing them. Clover does not do at all. I will try a small piece in crimson clover, now in wheat. Please suggest any improvement. All I know about farming I have learned from the P. F., and I hope you will make a good farmer of me." It would seem that the land must be very poor, or the farmer a poor one who cannot make half his wages on a stocked farm. As part of your farming the pigs will come in very well. The difference in climate between Minnesota and Southeast Missouri will give you a great advantage. Starting with a patch of crimson clover in the spring, you should have several lots fenced off. Sow one as soon as the land is warm, in an early variety of cow peas; the Early Black Eye is good. Sow at same time, another lot with the Large Black or the Whippoorwill pea and still another with the Clay. By the time the pigs have used up the clover the Black Eye peas may be ready. Then plow the clover lot and plant it in sorghum. The peas maturing one after another should keep the pigs going till time to give them corn for finishing. As the first lots of peas are used up the stubble can go into crimson clover and the series can be reversed, or the first eaten clover patch can be planted in corn, though the sorghum will come in very handy for the sows during the winter. A regular succession of peas following some earlier crop is as good a preparation for pigs as you can get. Oats may come in handily after the clover if the peas are not ready, as the peas should have mature pods on them before putting the hogs on. We will do all we can to assist you and your neighbors, and will gladly reply to your queries.

More About Salt. — G. T. Hollins, Roaring Branch, Pa.—"Is salt injurious to land? If not, would it be advisable to mix it with fertilizer mixed at home. I am thankful for the privilege of having questions answered in your paper, of which I am a constant reader." There is no plant food in salt that is of any advantage to crops. It may in some cases cause the solution of some matters in the soil, but this is doubtful, and in no case would we mix it in a fertilizer. In a very strong soil, rich in humus, where grain is apt to lodge, an application of salt may check nitrification and to some extent prevent the lodging of the grain. Salt is the chloride of soda, and chlorine is to some extent poison to vegetation, while the soda will not take the place of potash, as some once insisted it would. What you need in a fertilizer is a due percentage of nitrogen, phosphoric acid and potash suited to the needs of your particular soil, and no one can tell you what the particular needs of your soil are but the man who cultivates it, and he can find out through patient experimentation, as we have endeavored to show in the book "Crop Growing and Crop Feeding." Every farmer should thus study the needs of his soil, and be enabled to know what he needs to buy and what he does not.

Corn in Pennsylvania.—J. P. Wagenknight, Upper Darby, Pa.—"I have six acres of crimson clover. Am short of manure. What can I fertilize with to grow corn? The ground is light clay, with plenty of small stones? Will it be best to pasture or mow for hay? I also have three acres of meadow, which is run down, and so situated that manure cannot be hauled there. Same kind of soil. What will I fertilize with to bring up the pasture?" We would either turn under the whole of the crimson clover and thus give the land the needed humus or we would mow it as soon as just in bloom and make it into hay to be fed and returned to the land. This last would be the most economical use to make of the clover. Then break the land well and prepare for corn and harrow in 350 pounds of acid phosphate and 50 pounds of muriate of potash per acre broadcast so that the fertilizer will be equally distributed on the land as the nitrogen from the clover will be. If you do not want to break the sod on the pasture or meadow the best thing you can do for it will be to apply 100 pounds per acre of the nitrate of soda. Do this as the grass starts to grow and apply it when it is dry and not wet with dew or rain.

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"For the land's sake"—use Bowker's Fertilizers. They enrich the earth and the men who till it. Address nearest office, Boston, New York or Cincinnati.

Spring Medicine

There is no other season when good medicine is so much needed as in the Spring.

The blood is impure, weak and impoverished — a condition indicated by pimples and other eruptions on the face and body, by deficient vitality, loss of appetite, lack of strength, and want of animation.

Hood's Sarsaparilla and Pills

Make the blood pure, vigorous and rich, create appetite, give vitality, strength and animation, and cure all eruptions. Have the whole family begin to take them today.

Hood's Sarsaparilla promises to cure and keeps the promise.

A Low Wagon at Half Price.

The cheapest, the easiest and the best way to get a low wagon is to buy a set of Electric **Steel Wheels** to fit your farm wagon. If you don't want to bother with changing the wheels buy a set to fit your old gear. If you have no old gear you can buy one for a song, as there are thousands of them lying around the country. A set of **Electric Steel Wheels** costs less than one-half the price of a low wagon. They are made to fit any wagon. They make a new wagon out of your old one with wheels that cannot rot or break. Made with straight or staggered spokes, wide or narrow tires. Save blacksmith bills. Write for our **Handy Farm Wagon Catalog.** Tells about our full line of Electric Implements. **It Is Free.**

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The Dealer Is Against Us

because we sell you wire fence direct from the factory at manufacturer's prices.

The dealer does not give you a better fence than we do, but he charges you more for it. You can buy the

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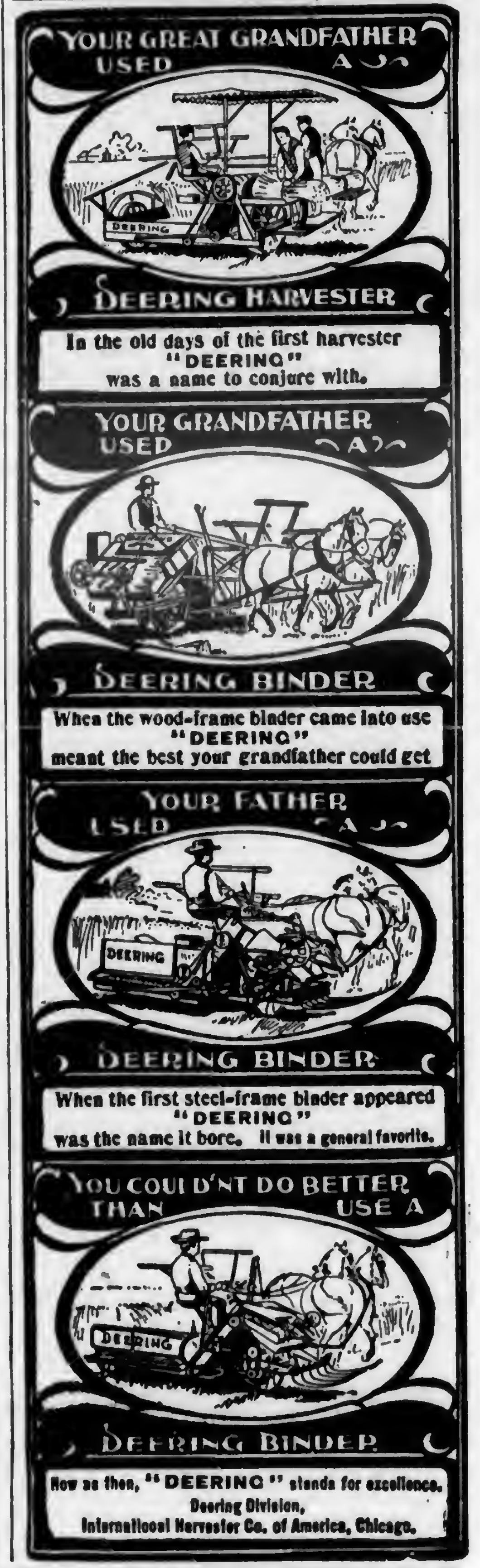

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DEERING BINDER
When the wood-frame binder came into use "DEERING" meant the best your grandfather could get

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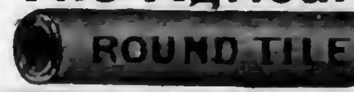

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They were first in the field, and are still first in favor. Write and learn what they will save *you*.

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Improved Robbins Potato Planter

ARE YOUR KIDNEYS WEAK?

Thousands of Women Have Kidney Trouble and Never Suspect It.

An interesting letter to our readers from Mrs. Gertrude Warner Scott, of Vinton, Iowa.

Vinton, Iowa, July 15th, 1902.

In the summer of 1893, I was taken violently ill. My trouble began with pain in my stomach, so severe that it seemed as if knives were cutting me. I was treated by two of the best physicians in the county, and consulted another. *None of them suspected that the cause of my trouble was kidney disease.* They all told me that I had cancer of the stomach, and would die. I grew so weak that I could not walk any more than a child a month old, and I only weighed sixty pounds. One day my brother saw in a paper an advertisement of Dr. Kilmer's Swamp-Root, the great kidney, liver and bladder remedy. He bought me a bottle at our drug store and I took it. My family could see a change in me, for the better, so they obtained more, and I continued the use of Swamp-Root regularly. I was so weak and run down that it took considerable to build me up again. I am now well, thanks to Dr. Kilmer's Swamp-Root, and weigh 148 pounds, and am keeping house for my husband and brother, on a farm. Swamp-Root cured me after the doctors had failed to do me a particle of good.

Gratefully yours,

Gertrude Warner Scott

The mild and prompt effect of Dr. Kilmer's Swamp-Root, the great kidney, liver and bladder remedy, is soon realized. It stands the highest for its wonderful cures of the most distressing cases. Recommended and taken by physicians, used in hospitals and endorsed by people of prominence everywhere. To prove what Swamp-Root will do for you a sample bottle will be sent absolutely free by mail, also a book telling all about Swamp-Root and its wonderful cures. Address Dr. Kilmer & Co., Binghamton, N. Y., and be sure to mention reading this generous offer in The Philadelphia Practical Farmer.

If you are already convinced that Swamp-Root is what you need, you can purchase the regular fifty-cent and one-dollar size bottles, at the drug stores everywhere. Don't make any mistake, but remember the name, Swamp-Root, Dr. Kilmer's Swamp-Root, and the address, Binghamton, N. Y., on every bottle.

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Tells you the whole story of how, what and when to sow and describes the popular

CAHOON
Broadcast Seeder,
which sows uniformly, saves ½ the seed and covers up to 50 acres a day. For every kind of seed. Book free. Write for it to-day.
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Corn Planting

must be well and carefully done, as the future crop depends upon it. For all purposes, in any soil, on all kinds of ground nothing equals the
SPANGLER CORN PLANTER.
It saves time, labor, money and insures the crop. You know when it is working; you can see the corn on its way to the ground. Made with or without fertilizer attachment. New device for sowing peas, beans, ensilage, corn, etc. We also make the famous Spangler Low-Down Grain and Fertilizer Drill. Write for catalog and circ.
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HENCH'S 20th Century Steel Ball Coupling Cultivator

With Double Row Corn Planter and Fertilizer Attachment Complete on One Machine.
Parallel beam movement, pivoted axle, with lateral beam movement in connection with the movable spindles, or either independent of each other. Centre lever for spreading and closing shovel gangs. The most complete cultivator on the market, having every possible movement of the shovel gangs.
Order immediately and introduce them for next season.
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"STUCK UP"
Corn rows that are stuck up against a hillside cannot be cultivated with the ordinary cultivator. That is just where the
KRAUS PIVOT AXLE CULTIVATOR
is at home. The pivot-axle which controls the entire machine, enables it to go against the hillside with a "gather." That keeps it up to the work and parallel with the row. Works equally well on the level. Wheels and shovels simultaneously moved sideways by the foot levers. Adjustable in width. Center lever spreads or closes the gangs. 4, 6 or 8 shovels. **Pin or Spring Hoe or Spring Tooth.** Simplest in construction and easiest working cultivator made. Accept no substitute. Insist on getting the KRAUS. No other "just as good." If your dealer does not handle it, write us.
THE AKRON CULTIVATOR CO., DEPT. E, AKRON, OHIO.

The Practical Man

appreciates the saving in wear and tear, in friction, draft and labor gained by the simplicity of

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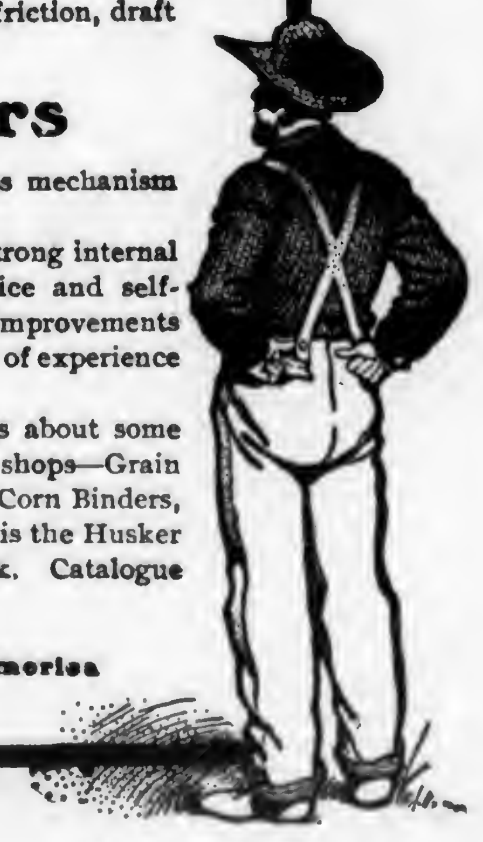

He knows the value of abolishing needless mechanism and applying power direct.

Plano's simple, automatic Clutch Shift, strong internal Drive Gear, easy-acting Vertical Lift Device and self-adjusting Draft Rod are the kind of Mower improvements that appeal to him. They are the outgrowth of experience and scientific ingenuity.

Our catalogue explains them and tells about some other interesting products of the Plano shops—Grain Binders, Headers, Reapers, Mowers, Rakes, Corn Binders, and Huskers and Shredders. The "Plano" is the Husker famed for its safe swift and satisfactory work. Catalogue free.

PLANO DIVISION
International Harvester Co. of America
CHICAGO, ILL.

Live Stock and Dairy.

A Great Combination. While we keep this department up-to-date on stock and dairy matters, we know that many of our readers would like, in addition, an exclusively stock paper. Among them we regard The Breeder's Gazette, of Chicago, the leading one. We have made arrangements by which we can send the P. F. and The Breeder's Gazette both one year for only $1.90.

To Fatten and Butcher Swine.

W. J. HALL.

I noticed your plan of killing hogs in a recent issue of the P. F., and have seen other plans given for butchering hogs. When the time comes to fatten hogs, I feed them corn in a ½-acre lot that I use for a truck lot in the spring and summer, and give them range on a 4-acre blue grass lot, with plenty of good running water on it. The truck lot gets the benefit of the cobs and a good deal of the droppings, and produces a good crop every year without anything else put on it. I feed the hogs all the corn they will eat during the night, and give them milk and slop in the morning, and in this way I can put three to four pounds per day on nice thrifty hogs. When fat I put the hogs in an adjoining lot, containing one-quarter acre, where hogs are to be butchered and scalded, the log heap being in this lot also. When everything is ready a hog is shot with a 32-calibre rifle, and when the hog falls it is turned on its back and the sticking knife is applied. While this is done the other hogs are rooting and lying around, and are not the least scared, everything being done so quietly that they take no notice of it. This is continued until the last one is butchered. I have had but one or two hogs to squeal in the last fifteen years, and I butcher from ten to thirty every season. I never put a hog in the scalding tub until entirely dead. I recommend this plan as being the safest and most humane way of butchering hogs. It is a great horror to me to see hogs knocked down with clubs and axes and to hear them squeal and see them struggle while this is being done, and if near the house it generally frightens the small children and the women. A neighbor of mine a few days days ago undertook to knock his hogs down with an ax, and being somewhat excited while in the pen with the frightened hogs, he struck at a hog and missed, hitting the man that was helping him, and came very near breaking his leg. The wound was so severe that the man fainted and had to be assisted in order to get out of the pen. I think with wild natured hogs that it would be somewhat dangerous, and a great deal of trouble, to use the box as recommended in the issue mentioned. I object to the old way of catching hogs and sticking them, as they utter such a pitiful and heart-rending squeal for life, and if they fail to bleed well they are a long time in the death struggle, which surely will hurt the feelings of any merciful man. So I recommend this plan, because I think it the best and most merciful and feeling way of doing it; and it is the best for man and beast. I saw a hog, a few weeks ago, that was being butchered, and his head had been battered with an ax, and the sticking knife applied two or three times, and he kept on squealing, and the men took their butcher knives and cut his head clear off to stop the squealing. This I pronounce barbarous. Then another thing I have noticed, the fatter hogs are the easier they are to kill; so for their benefit make them very fat before they are butchered. I make these suggestions, because hogs at butchering time have my sympathies, and would like everybody to kill them in a way that they will suspect no harm, and if done in the above way they will never know when killing time comes.

Montgomery Co., Va.

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Stock Queries.

Feeding Ration.—In issue of Feb. 7, page 84, you give the protein 5.9, fat 1.5 for Hungarian, and clover 3.7 and 0.8. Is there not an error in that statement? Will you give the analyses of Pearl, Japan and Golden millet? GEO. W. HUMPHREY.

Rochester, Mass.

(*Reply by H. Stewart.*)

The figures given on page 84, Feb. 7, relate to the actual digestible matter in the fodders mentioned. This varies considerably, according to the stage of maturity at which they are cut and used. The quantity of nutritive elements contained in the various kinds of millets mentioned are as follows, in per cent.:

	Protein.	Carbohydrates.	Fats.
Common millet	9.5	45.0	2.6
Golden millet	7.2	47.0	3.1
Sorghum	5.6	46.9	2.3
Hungarian	5.9	45.0	1.5
Pearl millet	6.0	45.5	2.7

But few analyses have been made of these plants on account of their very moderate use. The cause of this neglect is a well founded—we think—prejudice against them on account of their occasional injurious effect on the animals to which they are fed. So many reports of this kind are made, and there is so unsatisfactory an explanation as to the actual cause of the alleged injurious results of the feeding of these plants, that they can scarcely be recommended to displace the many other wholly unobjectionable substitutes in common use. It may be that the objection may be well founded because of the excessively large proportion of the protein elements contained in this class of plants. But the writer has good reason to account for their injurious effects from the sharp, lancet-like, glassy points on the edges of the leaves, which will cut one's fingers deeply if a ripe blade is drawn carelessly through one's hand. Few persons have carefully examined a blade of sorghum at its maturity. No poisonous element has ever been detected in any kind of sorghum.

Feeding Young Calves.—Please let me have your advice as to treatment of calves two and four weeks old. After being active suddenly became purged, possibly from adding a little ship stuff to the mother's feed to develop the milking glands. This we stopped and continued corn meal and bran. We gave one egg a day, but they went from bad to worse; got too weak to stand at the cow. We gave 15 drops laudanum in tablespoonful castor oil. Nose has become warm again after being cold two days. Fed pap (of flour and milk boiled), small mess. No thumping, but shivers; the eyes of one are closed and discharge. Someone calls it the weed. We have third calf in next stable. Is it likely all calves coming soon will get the disease?

Leamon Place, Pa. E. W. ESHLEMAN.

(*Reply by H. Stewart.*)

The cause of all the trouble described is the wrong feeding of so young calves. The digestive functions of so young animals are unable to dispose of the foods described. The feeding should be as follows: The fresh milk of the dam for one week; this is fed, the calf being weaned at birth. After this the skimmed milk is warmed to the ordinary heat of the fresh milk; there is added a thin gruel made of ground pea meal and linseed meal, boiled sufficiently to make a jelly when it is cold. Boil one pint of each meal in ten quarts of water, for one hour. If the linseed alone is used, boil it in six times its bulk of water. This is mixed with twice its measure of skimmed milk, warmed to blood heat. Two feeds a day of this are given until the young animal has grown sufficiently to need more, and this may be added once a week as the calf will take it healthfully. If the calf is scoured, add a little wheat flour and boil it in with the others. It is too early at this age to attempt to develop the milking glands; eight months is early enough for this. Good judgment is always to be observed in this kind of feeding, and if severe diarrhoea occurs decrease the feed and add a teaspoonful of cod liver oil to each feed, increasing it two or three times as may seem to be desirable. This feed may be gradually increased, week by week, until at two months of age the calf gets a pound of the meal daily. Five quarts of milk, at a meal, twice a day, is sufficient up to sixty days; any increase of feed is to be made cautiously, and with good judgment, increasing so slowly, day by day, that immediate check may be given, if needed, to excessive feeding. Eggs are wholly unfit for such a calf. It is better to check disease of the bowels by reduction of food, than to give medicine.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 1016 Davis St., Evanston, Ill., who has editorial charge of this department. All inquiries requiring answer by mail must be accompanied by a fee of $1 each.

Itching Skin.—I have a horse that is troubled with an itching that makes him rub his tail and mane. There is no breaking out. Has good care, good feed and is kept in fairly good flesh; has no worms nor lice, and I have tried many things generally used for such humors of the skin, but have not found anything to help him.

Sac City, Ia. C. W. CONNER.

The itchiness is invariably associated with sluggish circulation of the blood, which usually comes from lack of exercise and overfeeding on such grains as corn. Better have him clipped at once. Cut down the grain or feed bran mashes and carrots with hay and fodder but no grain for some time. Give him a thorough cleaning twice daily using the curry comb and brush if you do not clip him, and the brush if he is clipped. Wash the mane and tail with a solution of tar product sheepdip or disinfectant three times a week. See that he gets plenty of work to do or that he is exercised well daily. Three times daily for a week give him half an ounce of hyposulphite of soda in soft feed or drinking water. Barn should be clean and well ventilated and he should have a roomy box stall in which to run when not working.

Growth.—A mule has a bad sore on front of foreleg, a little above pastern joint, caused by neglected cut from barbed wire. The sore is round, nearly 2 inches in diameter, with protruding flesh. Tried nitrate of silver but could not move it; lately have used sugar of lead and white arsenic, with a little lard; put a little arsenic on first and keep it there

Horse Owners! Use
GOMBAULT'S
Caustic Balsam
A Safe Speedy and Positive Cure
The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish.
Every bottle sold is warranted to give satisfaction. Price $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.
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Lump Jaw in cattle, Fistula and Poll Evil in horses, and almost every blemish that a horse can have, even bad Bone Spavin, Ringbone and Knee-Sprung, can be readily cured by anybody. We want to tell you how to do it, prove that you can do it, and guarantee you success in doing it. Two big booklets explaining everything sent free. Write now.
Fleming Bros., Chemists, 226 Union Stock Yards, Chicago, Ill.

Cream SEPARATORS All about them and other things for the dairy and creamery. A. H. REID, Philadelphia.

Large English Berkshire Swine. Imported boars at head of herd. Prices defy competition. Send for catalogue for 1902. N. S. BURRIER, New Midway, Md.

ROSS CUTTERS AND SHREDDERS SAVE FEED TIME & MONEY OUR FREE FEED SAVING LITERATURE TELLS YOU HOW TO DO IT-SEND FOR IT. THE E. W. ROSS CO. SPRINGFIELD ~ OHIO.

The AMERICAN CREAM SEPARATOR
is helping the cows to make money for thousands of farmers. It will help you. It is simple. It is practical. It is
Sold on Trial.
The machine that turns easily and does its work thoroughly. Write for separator book. It is free and you ought to have it.
American Separator Co., Box 1050 Bainbridge, N. Y.
Won Medal at Paris, 1900.

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ABOUT CREAM SEPARATORS.

What the intending buyer of a cream separator wants are HARD FACTS—not fanciful nonsense and alluring misrepresentation.

He doesn't care much for silly ditties about "big brother" and "little sister" separators; nor "high" and "low" feed twaddle which means nothing to any one; and he may well steer clear of fake skim-milk "records" which have no actual foundation.

But what does concern him are these HARD FACTS—

That a De Laval Cream Separator is as much superior to imitating machines as such other separators are to gravity setting systems.

That protecting patents make and keep them so—together with far greater experience and superior facilities in every way for cream separator manufacture.

That every big and experienced user of cream separators knows this and uses De Laval machines exclusively—both in factory and farm sizes.

That it is as foolish to-day to buy other than a De Laval separator as it would be to buy an old-fashioned reaper if an up-to-date combined mower and reaper could be had for the same money.

These are simple HARD FACTS plain to any one. A machine itself will best illustrate them. The nearest local agent will be glad to arrange this to your own satisfaction.

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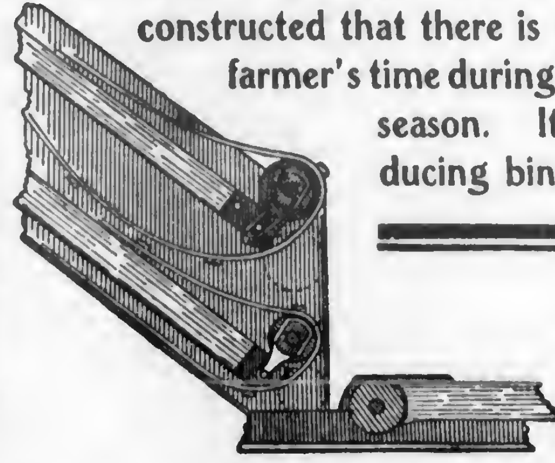

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with salve. Have used this three times. When not burning use sulphate of zinc ointment. The top of the flesh seems hard and the chemicals do not seem to work on it.
Dows, Tenn. JNO. J. JELLICOSE.

You do not leave the arsenic and lead paste long enough in place. Do not wash it off. It will surely take off the top of growth without cutting. Be sure to tie mule so he cannot bite the part. Apply the paste over and over again until the sore is cut down about level with the flesh, then apply the oxide of zinc ointment daily or try a solution of one ounce each of chloride and sulphate of zinc in a pint of water.

Wound.—I have a 6-year-old mare in foal since May 28th. About three months ago she snagged herself on the outside of hind leg just above the fetlock joint in a three-cornered shape. I used carbolic acid diluted with water on it for some time, but saw it was doing no good. W. W. MCKELVEY.
Round Bottom, O.

It is most probable that there is a foreign body in the wound which will have to be removed before it will heal over. It would be well to probe the part very carefully with a silver probe and thus ascertain if a foreign body is present. It would be best to have this done by a qualified practitioner. After removel of the sliver or such object, inject into wound twice daily a little of a 5 per cent. solution of protargol, and when discharge ceases clip hair from around sore and blister with cerate of cantharides as so often advised in this department of the paper.

Congestion.—My 4-year-old Jersey cow took sick Feb. 7th, very suddenly. The eyelids both above and below were greatly swollen; also swelled behind to possibly four or five times the natural size; became too weak to stand more than one or two minutes at a time; had severe pains which greatly increased when lying down; breathed through her mouth and bawled at every breath; udder and teats became very blue. We put turpentine on head and back, gave her inwardly about ¾ pint of raw linseed oil and bled her at the tail. This was the ninth day after cow was fresh. Please state cause, cure and preventive. JOSHUA B. ZOOK.
Allensville, Pa.

About the ninth day after calving cows have what is known as the "lochial discharge" from the vagina, which is the second cleansing, and a natural process in nature's methods of restoring the functions of the parts. At this time cows are peculiarly susceptible to colds and other complaints, and it is probable that for some reason connected with this period she suffered a severe attack of congestion which might have passed off without treatment, but which was doubtless helped by your treatment. In future use a pint and a half to one quart of raw linseed oil as an average dose for a cow, and bleed from jugular vein in preference to the tail. We are by no means certain as to the cause or exact condition of this case.

Scratches.—I have a mare 10 years old. She has run down and is poor; her hind legs stocked badly, one more than the other; seemed to be a little stiff in the one. She had what we called scratches for a year or more before I got her. I got them healed up and took good care of her. Seemed to be a little better, but this winter her legs swelled and she is stiff. C. B. SMITH.
Millerton, Pa.

See that mare has a roomy box stall in light, clean, well ventilated barn and give her plenty of exercise daily. Dry the legs well with sawdust instead of washing them. If tendency to swelling and scratches continues, apply, once daily, a mixture of one part sulphur, one part Chloro-Naptholeum and six parts lard, freely at roots of hair. Feed her a bran mash twice a week. Wet all food with equal parts molasses and water, using a pint to a quart of molasses daily. Prof. Law's "Veterinary Adviser" is suitable for your needs and may be ordered of The Farmer Co.

Leucorrhoea.—I have a black mare, purchased last October, that had been bred about a month before. I fed, the first part of winter, on mixed hay (clover and June grass) and a little corn, two or three ears twice a day a day; after that changed the grain to two quarts wheat bran and just enough ground flaxseed to keep the bowels loose. She is not worked hard, only driven a little almost daily, for exercise. I do not know whether she is with foal or not; notice a considerable amount of white, slimy and thick, stringy matter passing from the vagina very often, which I suppose is leucorrhœa.
Angola, Ind. E. G. RICHMOND.

We should say that there is a dead and decomposing fetus in womb, or a bad case of leucorrhœa. Filthy drinking water might well cause death of foal and abortion with retention of afterbirth, or even of foal itself. In any case the first step should be to have a thorough examination made of the vagina and womb. A speculum is necessary for this purpose, and it will therefore be necessary to find some veterinarian who owns such an instrument. When the speculum is used it will be possible to look into the vagina and then open the mouth of the womb sufficiently to flush out the organ and remove dead fetus or afterbirth, etc. At the same time similar symptoms may arise from the presence of a large polypus in the vagina, which would have to be removed by ecraseur. We do not believe the mare is in foal, and if you cannot attend to the matter as above advised, then give treatment for leucorrhœa according to instructions often given here, or write again after you have made an examination, and tell us what you have found.

Shying. — I have a mare 12 years old. For the past six months she has been shying, especially at saw mills and such things. I now drive with blinds. Tell me what is best to do or how to get it out of her.
Warsaw, Va. J. E. CROUCH.

When a mare at this age becomes suddenly fractious and liable to shy, it is to be suspected that her eyes are becoming affected either by periodic opthalmia or cataract. On general principles keep her in a darkened stable and frequently wet the eyeballs with a solution of one grain of atrophine in an ounce of distilled water. Try such an application by means of a medicine dropper, as an experiment, before driving her past a place where she is liable to shy. This medicine merely dilates the pupil of the eye but will not cure disease if present. Blinders should be worn in such cases.

Brain Trouble.—Yesterday morning I found one of my cows sick. She had a calf about two weeks ago. She was standing and would hardly move. At times she would open her mouth and work her tongue back and forth as though she wanted to spit something out. At 8 o'clock she suffered great pain, drawing her head up to her left side; closed her eyes and fell over as dead, but in a few minutes raised up and laid natural. I left her expecting her to die. About 10 o'clock she was up but would notice nothing but her calf, which was playing around. Her horns were cold, but at noon one was very hot almost to the end. The other was cold as before. At one o'clock the horns had changed to about natural heat. After this no change could be seen until evening, when she was standing with her head close to the floor chewing her cud. Later on she laid down. A neighbor told me to put some turpentine on the back of her horns and over her kidneys. This morning she was eating. I saw her hump her head against the manger several times, and by examining found that she was entirely blind. S. C. JENSEN.
Starr, Pa.

We take it that the cow has suffered an attack of congestion of the brain and that there is effusion of serum or blood upon the brain, with blindness as a result. The congestion could proceed from either a bruise or indigestion. On general principles give her a one-pound dose of epsom salts with one ounce each of saltpetre and ground ginger root in two quarts of warm water. After this has acted follow with a drachm of iodide of potash three times daily for a week and blister the poll of head with cerate of cantharides, one ounce; biniodide of mercury, two drachms; mix. Rub it in well for 15 minutes. Wash it off in 48 hours; then apply lard daily. Tie her so she cannot rub the blistered part and see to it that the blister is not licked off by other cattle.

Impaction.—1. I have lost three sheep. They get sick, droop around a few days and then squat down on three legs and won't eat or drink; die in ten days or two weeks. They are fat and have one ear of corn to eat per day, corn fodder and crab grass and well water to drink. 2. Also have a calf that was taken sick last fall. He laid stretched out and could not get up for three weeks, and now he reels as he walks. His hind parts try to get ahead of front. He eats well and is in good fix. He is about six months old.
Farina, Ill. WM. MOLT.

1. A post mortem examination should be made in such cases, and would doubtless show that death was due to impaction from the continued feeding of coarse fodders and hay without the succulent food necessary to keep the bowels open. This is most liable to happen in pregnant ewes not given enough exercise. Avoid such troubles by the feeding of silage, roots or bran and crushed oats. At outset of an attack give a four-ounce dose of epsom salts and a cupful of molasses in a half pint of warm water and follow with stimulants and 10-drop doses of fluid extract of nux vomica every four hours, until bowels move off freely. Also give rectal injections of soapy warm water at similar intervals. 2. The cause of partial paralysis in calves is usually same as above described, impaction of the bowels being present, or indigestion, followed by brain or spinal lesions. Feed young calves at frequent intervals instead of seldom and too much food at a meal. Also balance the ration with oatmeal, bran and dried blood meal. Your present bill of fare is wrong. Stop the corn and use the other nitrogenous foods mentioned.

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HOOD FARM MILK FEVER CURE, $2.50.* Have it on hand. Saves the best cows.
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My remedy does that even in the most difficult, obstinate cases. It has cured the oldest cases that I ever met. And in all my experience—in all my 2,000 tests—I never found another remedy that would cure one chronic case in ten.

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Early Sweet Corn.—A few messes of extra early sweet corn are always valued highly at our house. We want it in July, if possible, and if we can succeed in getting at this time even a fair supply for market, it usually proves very profitable. Even small ears will do very well for the first early, and we plant such sorts as Cory, Premo and others of the more dwarfish early sorts. Sheffield, I find, is tall-growing, and much too late for this purpose. These early sweet corn varieties are much hardier than is generally supposed. We can safely plant them much earlier than we usually do our field corn. The plants will stand a light frost such as we may have late in April or along in May; or if an unusually severe frost should be threatened at this time, we may be able to protect the plants in each hill by drawing a little soil over them, or by means of a handful of hay or sawdust. Corn may also be started in frames and transplanted to open ground. The corn plant transplants very easily, and seems hardly ever affected by the transfer even where the roots are much disturbed. Mr. A. M. Cheever, of Massachusetts, gives his plan in Tribune as follows:

"I start as much as I think will be needed in cold frames, planting in hills the same as if in the open ground, only about twice as near together each way. After the plants are up I give the beds plenty of air in mild weather, aiming for hardy plants rather than very large ones. April 20 is usually early enough to put in the seed. It will depend, of course, on the general forwardness of the season. I once had corn planted outside out of the ground on April 30, with no late frosts to destroy it, but such seasons are rare in this latitude. For transplanting I have a sheet-iron cylinder about nine inches in diameter and nearly as long, with the edge turned over at one end to strengthen it and to render it easier to crowd it down into the soil around a hill of corn. I always set the corn near the cold frame, so that the hills not transplanted will be in the same or adjoining rows with those outside. A frame six feet wide will start three rows and give ample room for the corn to grow till it is ready to transplant. I take up all of the middle row and every other hill of both the others. All the fertilizer is applied broadcast, so when ready to transplant I dig the holes for as many hills as are to be moved, then crowd the cylinder down over a hill in the frame and run my spade underneath and pick up and carry to a hole all ready for receiving the plants; draw the soil up and around the cylinder, treading it down sufficiently, then pull the cylinder up and the work is done. Part of the soil taken out will be needed for filling the hole left in the frame. Corn moved in this way will hardly stop growing, not much root growth having been pruned off. I could see scarcely any difference last summer between the transplanted corn and that left in the frame bed. I think this is better than starting the plants in pots the size commonly used. The cylinder should be made of the thickest iron one can find and lapped and riveted just like a common piece of stovepipe. In land free from small stones it will work down around the hills quite easily, and one should avoid having many stones in the soil of the frame."

Mr. Cheever says that he has an abundance of sweet corn by the middle of July. At any rate I find that it is well worth while to take a little pains in starting and planting our earliest sweet corn. If we then plant Crosby's Early or Mexican Black, or any of the other early sorts, in open ground, just as soon as weather conditions permit, we will be likely to have good ears of sweet corn for our table or for market right along.

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Current Comments.

Tomatoes Directly from Seed.—Can you get tomatoes earlier by planting seeds in greenhouse, say six or eight weeks before time to transplant out doors, than by planting seed as early as possible out doors and not transplanting at all? The Experiment Station at Phoenix, Arizona, says, in 1899 they set out plants raised in greenhouse and planted seed same day and had ripe tomatoes ten days earlier on plants from seed planted out doors. One of my neighbors says he had the same experience. I asked our Experiment Station at Lansing, Mich. They said they could not tell, but were of the opinion that there would not be much difference, and that it would not pay to raise plants in greenhouse for commercial purposes. I raised 12 acres of tomatoes last season and paid $75 to have plants raised. Can I save that expense by planting seed out doors, and get tomatoes as early?
Ludington, Mich. GEO. C. MCCLATCHIE.

It depends altogether on how the plants are grown. If the seed is sown thickly in beds, and the plants left to grow thickly together and spindling, and then pulled up directly from the seed bed and exposed to out-door life early in the season, plants grown directly from seed sown in open ground, may bear fruit as early and possibly earlier. Not so with plants properly grown. I desire to have ripe fruit in July and August, and the only way that I know of to insure that accomplishment, is by starting the plants from seed sown in greenhouse not later than March 1st, and preferably perhaps in February, and by transplanting, giving each plant all the room it will need for stocky growth and plenty of roots, then hardening off and carefully setting in open ground about June 1st. When we grow tomatoes on a large scale, for main crop, not as the market gardener grows them for a retail market, or if we grow them for the canning establishments, we must grow plants more cheaply, and a hotbed may do first-rate. If seed is sown during March, or by April 1st, the plants transplanted to cold frames, allowing each a reasonable space (the more the better, of course), the fruit should begin to ripen much earlier than on plants grown from seed sown in the hill. You can save the $75 for plants, to some extent, if you grow them yourself.

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Some New Vegetables.

WM. A. LAWRENCE.

The Early Baseball cabbage, will, I think, take a high position among early cabbages. It is flat-headed and fully as early as Jersey Wakefield, surer heading and with much harder heads. Every plant produces a head and though small, the heads are so solid they weigh as well as Jersey Wakefield. It is of dwarf habit, therefore can be set closer than other varieties, and the plants growing very slowly from the start, seed can be sowed rather earlier than larger-growing kinds as the plants can stand in the bed longer without becoming overgrown. Thus the crop can be made earlier. I shall sow seed of this one or two weeks earlier than other cabbage varieties this season, and note results. One fault I have to find with it is that the heads are rather inclined to burst and rot in wet weather. I have never grown Maule's First Early, but will do so this season.

Another novelty of merit is Maule's New Alpha beet. I tested this last season and had beets from it much earlier than I ever had beets before. Side by side with the Electric, it proved much the earlier of the two. It is not only early, but large. I sowed a few late in the spring alongside an underground drain, which, before the beets came up, broke out and flooded the ground and continued to do so every time it rained, preventing proper cultivation of the beets, but by fall these beets were 5 to 8 inches in diameter.

Maule's Silver Anniversary lettuce is an extra large, fine lettuce, rather tough when grown in the open ground in warm weather. It is excellent for wintering over in frames for the early spring market. It is not easily injured by freezing and does not mildew like the New York or Wonderful has for me this wet, cloudy winter. The New Rosette is not so large, but is extremely tender, forms fine heads and is very slow to run to seed.

Maule's Delicious radish is, I think, the best radish I ever ate. It is really an all-seasons radish, for it can be used at any stage of growth. I had them three inches or more in diameter, without being in the least pithy. With me, however, they were of a deep purple color. I notice what you say in reply to J. Hicks about vegetables "running out." For several years I had selected a strain of Long Cardinal radishes, always leaving the finest for seed, but last season the crop was a failure, few of the radishes attaining a marketable size and quickly shooting to seed. A German shoemaker here, who is interested in gardening, says they always "run out" in a few years unless transplanted, in which case they always grow larger.
Westport, Ind.

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Points and Pickings.

Garden Literature. — One of the best ways to keep up to the times in the garden is by reading good garden literature. The P. F. people publish three good books on this subject: "How to Make the Garden Pay," cloth, $2; "The Garden Book No. 1," paper, 50 cents; and "The Garden Book, No. 2," paper, 50 cents. These are all 20th century books, and give all that is desirable in managing the home garden or the more extensive truck farm. Every reader of the P. F. can read one, or all of these books with profit.

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It is an excellent cough cure
—Jayne,s Expectorant.

THE VALUE OF CHARCOAL.

Few People Know How Useful it is in Preserving Health and Beauty.

Nearly everybody knows that charcoal is the safest and most efficient disinfectant and purifier in nature, but few realize its value when taken into the human system for the same cleansing purpose.

Charcoal is a remedy that the more you take of it the better; it is not a drug at all, but simply absorbs the gases and impurities always present in the stomach and intestines and carries them out of the system.

Charcoal sweetens the breath after smoking, drinking or after eating onions and other odorous vegetables.

Charcoal effectually clears and improves the complexion, it whitens the teeth and further acts as a natural and eminently safe cathartic.

It absorbs the injurious gases which collect in the stomach and bowels; it disinfects the mouth and throat from the poison of catarrh.

All druggists sell charcoal in one form or another, but probably the best charcoal and the most for the money is in Stuart's Absorbent Lozenges; they are composed of the finest powdered Willow charcoal, and other harmless antiseptics in tablet form or rather in the form of large, pleasant tasting lozenges, the charcoal being mixed with honey.

The daily use of these lozenges will soon tell in a much improved condition of the general health, better complexion, sweeter breath and purer blood, and the beauty of it is, that no possible harm can result from their continued use, but on the contrary, great benefit.

A Buffalo physician in speaking of the benefits of charcoal, says: "I advise Stuart's Absorbent Lozenges to all patients suffering from gas in stomach and bowels, and to clear the complexion and purify the breath, mouth and throat; I also believe the liver is greatly benefited by the daily use of them; they cost but twenty-five cents a box at drug stores, and although in some sense a patent preparation, yet I believe I get more and better charcoal in Stuart's Absorbent Lozenges than in any of the ordinary charcoal tablets."

Farm Wagon only $21.95.
In order to introduce their Low Metal Wheels with Wide Tires, the Empire Manufacturing Company, Quincy, Ill., have placed upon the market a Farmer's Handy Wagon, that is only 25 inches high, fitted with 24 and 30 inch wheels with 4-inch tire, and sold for only $21.95.
This wagon is made of the best material throughout, and really costs but a trifle more than a set of new wheels and fully guaranteed for one year. Catalogue giving a full description will be mailed upon application by the Empire Manufacturing Co., Quincy, Ill., who also will furnish metal wheels at low prices made any size and width of tire to fit any axle.

SAN JOSE SCALE and other insects controlled with *Caustic Potash Whale-Oil Soap No. 3.* Send for circulars.
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PEDIGREED PEACH TREES
New Fruits and Berries—Low Prices.
Everything for the Fruit Grower. Catalog FREE.
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Choice Strawberry Plants I have them. About 50 varieties $2.25 to $2.50 per 1000. Discount on large lots. Send for estimate of varieties wanted. Illustrated descriptive catalogue free. W. S. Todd, Greenwood, Del.

OLIVE'S PRIDE. The new STRAWBERRY contains more points of excellence than any other variety introduced in recent years. 40 other varieties of Choice Stock, etc Write for free catalogue.
JOHN W. HALL, MARION STATION, MD.

HUNDRED THOUSAND PEACH TREES. Best Varieties, as many Apples, Plums, Cherry, Etc., cheap. Catalogue free.
WOODVIEW NURSERIES, MT. HOLLY SPRINGS, PA.

THE GREAT FRUIT TRIO
First choice among winter apples is the York Imperial. Hardy, juicy, fine flavored, long keeping and an enormous bearer. Should be in every orchard. The Concord Grape is standard and justly the most popular on the market.
The Hieley Peach is large, rich, creamy white and delicious. A fine early shipper. One of the very best of clings. Tree hardy.
Our stock of these fruits is superb. Free catalogue shows many other choice varieties of each.
HARRISON'S NURSERIES, BOX 30, BERLIN, MD.

SPRAY—Your Troubles Disappear
If you use a sprayer that automatically stirs the mixture and cleans the strainer. You have the easiest work in the field, get the finest spray and do more work by using the EMPIRE KING, ORCHARD MONARCH and GARFIELD Sprayers. They have the automatic agitators and strainer cleaning brushes. They never clog and they never burn nor spoil the foliage. These and other special features distinguish them from all other sprayers. Write for instruction book on spraying, formulas, etc. Mailed free. FIELD FORCE PUMP CO., 6 11th St., Elmira, N. Y.

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STARK GRAPE NURSERIES Portland, N. Y. are in the heart of the famous Fredonia-Chautauqua Grape Belt, which produces the best vines of any locality in the U. S. An Immense Stock.

	1-Yr. No. 1		2-Yr. No. 1	
BRIGHTON, large red, rich, sweet, best	$4.00	$30.00	6.50	$55.00
CAMPBELL EARLY, early black	8.50	75.00	$1.00	100.00
CATAWBA, large red; late, very good	4.00	30.00	16.00	50.00
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DELAWARE, a most excellent red	4.50	35.00	6.50	55.00
DIAMOND, finest white; very early	4.00	30 00	6.00	50.00
IVES, black; fair quality, hardy, healthy	3.50	25.00	4.50	35.00
MOORE EARLY, large black; very early	4.00	30.00	5.50	45.00
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" LONDON MARKET, best	4.50	35.00	6.00	50.00
GOOSEBERR[illegible] [illegible]ghton, Old Reliable	5.00	40.00	6.00	50.00
" [illegible]ing, large, good	5.00	40.00	6.00	50.00
" [illegible] (Red Jacket) best new sort	6.00	50.00	8.00	70.00

A general a[illegible] f Fruit Trees, including 250,000 Japan Plum and 1,000,000 Peach; Raspb'y, Blackb'y, [illegible], 3 best varieties; Chestnut, Weir's Maple; Root Grafts and an extra fine stock of Apple Seedlings. Send for Colored Plate and Descriptive Circular of STARK-STAR, best [illegible] te grapes. We Pay Freight on $12 orders, box and pack free.
STARK BRO'S [illegible] ARDS Co LOUISIANA, MO. Portland, N. Y. Dansville, N. Y. Atlantic, Iowa. Starkdale, Mo. Fayetteville, Ark.

Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Trees for Forestry Purposes.

Besides the scarcity of white pine, black walnut and other valuable lumber-producing trees, the coal strike caused an unusual demand for wood. It cannot be seriously disputed that in many States it would pay the owners of land to set out trees for the supplying of lumber in the coming years. Of certain kinds of pine, the South has still immense forests untouched, the yellow pine, Pinus Mitis, and the long-leaved, P. Palustus are still abundant, but the time is already here in the North when the white pine and the pitch pine, as well as many deciduous trees, cannot be had at the reasonable rates of former years. And it is pleasant to note that land owners themselves are beginning to see in what way their interests lie. An exchange says: "Not only are the large lumbering enterprises becoming interested in practical forestry, but the department has been called upon by many progressive farmers to plan for their farm wood lots, of greater or less extent, for both service and ornamental effects. This is a very happy condition, for as a matter of fact the average farmer is to an extent quite as much to blame for the denudation of the country, and is even today just as ruthless, in the destructon of groves and wooded lots, as the truly commercial agencies. He is learning now, however, by sad experience, the folly of his destructive mania and as he becomes more enlightened is turning to Washington for assistance." It has been mentioned in this column before what a number of idle acres there are which could be set to trees, and how quickly some trees grow. European governments have been getting our seeds and seedlings for years past, setting out forests as a business, and at the present time have a remunerative business from it on their hands. The sorts they plant cover a lengthy list, but the leading sorts are white pine, Douglas fir, Menzies spruce, shellbark and other hickories, red oak, black walnut, black birch, jack pine and others. These sorts, or others as profitable, could be grown here as well; but so far the white pine seems the only sort that is being planted in the North. Lately some addle-pated writer has spread himself in the Evening Post, advocating the planting of eucalyptus trees that are native to Australia, and which won't grow where more than a degree or two of frost occurs.

Bay Trees for Christmas.

Every year sees an increasing demand for ornamental evergreens in tubs or pots for Christmas uses. Though holly is the main kind required, almost any nice evergreen is sought for, and if it has bright berries, so much the better. A favorite plant, not only for Christmas but for all seasons, is the "bay tree," as florists call it. It is the "sweet bay" of Europe, and the Lannis Nobilis of botanists. Great quantities of this are imported every year The main lot comes in towards Christmas, but a great deal comes at other times. The Hollanders, from whom most of it comes, go to a good deal of trouble in preparing the plants for our market. Some are grown in conical form, others as standard; that is, with a clean stem for about five feet and then a branched head. The broad, evergreen leaves are the chief merit, but there are other meritorious points besides. It is a plant that will stand a good deal of ill usage; and, better still, it is all but hardy here in Philadelphia. In fact, the writer has a plant which has stood out two winters with a little protection. The leaves of the sweet bay are pleasantly odoriferous, especially when crushed, and this is true not only of the green leaves, but of the dried ones as well. I am led to this description of the plant and its uses by the thought that the growing of it as the Hollanders do, could just as well be accomplished here as in Holland. I think there is no doubt that from Virginia southward the sweet bay is hardy, and wherever it is there is no reason why an industry could not be built up in its growth.

Another reason why mention is made of it is that our own Xaurus Caroliniensis of the South is very closely allied to the one of Europe. The leaves have the same agreeable odor, proclaiming its relationship. It is open for trial whether it would not answer as the other does. The hollies of the South could be utilized in the same way. A nice bush of this, clothed with berries, in a tub, would always find a purchaser. Some imported ones of this description, six to eight feet high, retailed in Philadelphia at ten to twelve dollars each at Christmas last.

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Horticultural Queries.

Blackberry and Raspberry Bushes Won't Grow.—I have planted several hundred blackberry bushes, and same of raspberries, and can't get them to grow. Wild raspberries grow here but I can't get tame ones to grow. DAVID MORRIS.

Rouse, Col.

I cannot say why your raspberries fail to grow, but I do know that lots of these plants are killed by planting them too deep. When you try again, set them barely below ground, and cut the tops down to within six inches of the ground. If wild ones grow there others should do so. Have plants sent you with roots packed in moist material, and see that the roots are kept damp until planted. Lots of raspberries are killed by being planted too deep and from permitting the roots to become dry. Try again!

Tree Queries.—I have a young tree that is covered like the enclosed twig: what is it? Is the Carolina poplar recommended as a shade tree. E. G. S.

Manorville, N. Y.

The apple twig does not appear to have insects on it, but the eggs of some insect. It is not any of the dangerous scale insects. You should spray with kerosene emulsion before the buds burst. Do it now, and again a month later. If you send to some of the advertisers of sprayers they would send you circulars relating to the various mixtures. The Carolina poplar is a very fast grower and gives shade quickly, but it is not a good shade tree as it gets old. The soft maple is a better tree and a more permanent one.

Apple Orchard.—As I am going to set a commercial orchard this spring, I would like to have an opinion from you. I have selected the following varieties: Salome, Walbridge, Pewaukee, Gano, Grimes Golden and Baldwin. Is not the Gano a poor quality apple like the Ben Davis? I want to set all late keeping varieties that will last until May and June, and yet want an apple that is the very best quality, and red or striped. Site selected is 14 acres of well tilled, rich, rolling land, clay and sand mixed, with clay subsoil, and all depressions are tile drained. I set 100 apple trees last year and they made a growth of from 18 inches to 3 feet. Set 44 winter banana trees and the growth on them is good and strong; 3 feet.

N. Manchester, Ind. J. H. MORT.

The apple list as you have it is a very good one. The Gano is found on the lists of the best sorts published, and I do not remember ever seeing that its quality was not good. It is difficult to say your list is the best you could have, locality determining this question, to a great extent. In Pennsylvania we might want York Imperial, Delaware Red Winter and others in the list; and a little south of us Stark, Paragon, Winesap and Missouri Pippin are looked for. All of these are good and would be likely to thrive with you. There is not one of them that would come under the head of "a lot of stuff that is no good," such as you say you do not want.

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Horticultural Notes.

The Wild Passion Flower of Virginia and adjacent States, Passiflora Incarnata, is hardy in many Northern States when leaves are placed around its roots in winter. The flesh-colored flowers come every year, and in profusion.

In Fashion Again. — Fashions change, like seasons do, and perhaps it is as well. At any rate, we seem to better appreciate old friends when they reappear after an absence. The gladiolus leads me to say this. It appears to be in fashion again. It deserves it. Planted at intervals of a week apart, in spring and early summer, there is a continuance of bloom from July until late October. A great improvement has been made in this once popular flower.

NEVER TOO LATE

To Try A Good Thing.

I am fifty-two years old and for forty years of that time I have been a chronic catarrh sufferer, says Mr. James Geishing, of Allegheny City; with every change of weather my head and throat would be stuffed up with catarrhal mucus.

I could not breathe naturally through the nostrils for months together and much of the time I suffered from catarrh of the stomach. Finally my hearing began to fail and I realized something must be done.

I tried inhalers and sprays and salves which gave me temporary relief and my physician advised me to spray or douche with Peroxide of Hydrogen. But the catarrh would speedily return in a few days and I became thoroughly discouraged.

I had always been prejudiced against patent medicine, but as everything else had failed I felt justified in at least making a trial.

Our good old family physician, Dr. Ramsdell, laughed at me a little, but said if I was determined to try patent medicines, he would advise me to begin with Stuart's Catarrh Tablets because he knew what they contained and he had heard of several remarkable cures resulting from their use, and furthermore that they were perfectly safe containing no cocaine or opiates.

The next day I bought a fifty-cent box at a drug store, carried it in my pocket, and four or five times a day I would take a tablet; in less than a week I felt a marked improvement which continued, until at this time I am entirely free from any trace of catarrh.

My head is clear, my throat free from irritation, my hearing is as good as it ever was and I feel that I cannot say enough in praise of Stuart's Catarrh Tablets.

These tablets contain extract of Eucalyptus bark, blood root and other valuable antiseptics combined in pleasant tablet form, and it is safe to say that Stuart's Catarrh Tablets are far superior in convenience, safety and effectiveness to the antiquated treatment by inhalers, sprays and douches.

They are sold by druggists everywhere in the United States and Canada.

Strawberry Plants. We have them true to name all grown on new ground, consequently, are healthy and strong. Send for cir. Address Fruitful Plant Farms, John Lightfoot, Prop., Sherman Heights, Tenn.

10 PACKETS of Garden Seeds for 25 cents. Order Sheet free. J. Frank Lutz, Seedsman, Box A, Stevens, Pa.

WANTED. Young men, 18 to 25 years of age, desiring opportunities to secure permanent positions with ample opportunity for advancement, should immediately apply in writing to THOMAS MEEHAN & SONS, Inc., Germantown, Pa. The necessary requirements are a good common school education, a desire to learn, disregard for inclement weather and the intention to gain a permanent position. Boys of country training preferred.

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750,000 TREES Specialties: Apple, 16c; Peach, 12c; Cherry, 15c. Small fruit plants, Roses, vines. 100-page catalogue free. 2 New Red Cross currants 10c. Secrets of Fruit Growing, 150 photos, 10c. Copy Green's Fruit Grower free. Good salary paid for work at home. GREEN'S NURSERY CO., Rochester, N. Y.

THE VERY FINEST Straw Rasp Black Goose BERRIES Grapes AND Currants in the world are grown from plants sent out by me—for thirty years a small fruit specialist. Beautiful, illustrated catalogue of 50 pages, giving honest descriptions of varieties—some to be had of no one else—fair prices and replete with valuable hints on culture, free to everybody. J. T. LOVETT, Little Silver, N. J.

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ORCHARD STARTING would be the rage this spring if people could see our nurseries. Of apple trees 3½ to six feet high, the showing is seldom approached, certainly nowhere this year. Every one guaranteed on whole roots, full of vigor and strengtn. No sign of disease.

SUPERIOR Apple Tree STOCK

Many thousand Trees, over a hundred varieties. These are but samples.

Summer.	Autumn.	Winter.
Summer Rambo, Red Astrachan, Red June, Yellow Transparent.	Gravenstein, Maiden's Blush, Duchess, Fall Rambo.	King, [illegible], [illegible], [illegible], [illegible] Winter.

Every kind worth planting, all in pink of condition. Write at once for Spr[illegible] Apple Tree List. We pack as few nurserymen do. Safe delivery guaranteed to [illegible] part of U. S. Headquarters for Peach and Kieffer Pear Trees, Strawberry Plants, Asparagus Roots, etc. Catalogue mailed free. Harrison's Nurseries, Box [illegible], Berlin, Md.

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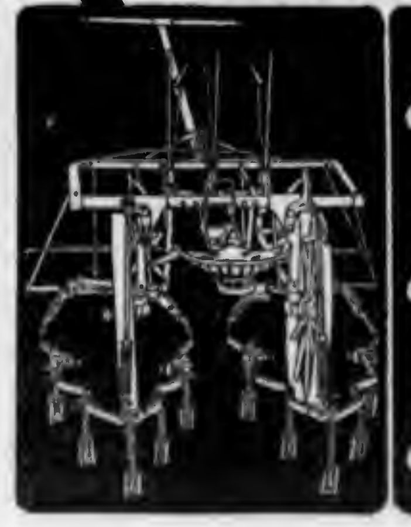
Planet Jr. The No. 72 "Planet Jr." Two Row Pivot Wheel Cultivator, Plow, Furrower and Ridger is the sensation for 1903, for with it one man with two horses can cultivate perfectly two rows at one passage any distance apart from 28 to 44 inches, even if the rows are of irregular width. It has one lever for regulating the depth in front by means of a hinged tongue. The machine can also be balanced so as to suit it to any weight driver and entirely relieve neck pressure on the horses—such an objectionable feature in most sulky cultivators. It has also two levers for regulating separately the depth of the two gangs in the rear, and two for changing the width of each gang separately while in motion, to accommodate the tool to the varying width of the rows. It has our famous pivot axle, which makes it so easy of control by the operator, and it is provided with four sets of furrowers and ridgers in addition to the cultivating teeth. It is a special favorite with potato growers. It is but one of our fifty Seeders and Cultivators, including plain and combined Seed Sowers, Wheel Hoes, Hand Cultivators, Walking Cultivators and One and Two-Horse Riding Cultivators, Special Sugar Beet Tools, etc. Our new 1903 catalogue contains over 100 pictures and illustrations, with full descriptions and prices. Let us send you one for nothing and it will save you money. Write for it. S. L. ALLEN & CO., Box 711 T, PHILADELPHIA, PA.



POULTRY.

This department is under the editorial charge of A. F. Hunter. All letters, inquiries and requests should be addressed to him at the Practical Farmer office, P. O. Box 1317, Philadelphia.

Poultry Observations.

W. M. R. VOSE.

A year ago I procured some pure bred White Wyandotte fowls from a Massachusetts breeder who was commended to me by the Editor of the Poultry Department, and am much pleased with the results. Not alone with my pure blooded pullets and cocks, but also with a lot of half breeds, which show a marked advance on the native hens, both as to size and egg production. I am fully convinced that those who do not aspire to have a strictly pure flock will find it profitable to breed up with pure blood. But there is something more than blood and proper food which makes for good results. A neighbor recently asked: "How do you get eggs?" I replied: "How do you feed?" "Oh, they have all the corn they can eat." "How about the hen house?" "Oh, they generally roost in trees."

Not a few Southern people appear to think that any old place is good enough for all kinds of live stock in this climate, but I am sure that good, warm houses, with ample window glass to admit sunshine, are quite as important here as it is known to be further North where a zero temperature is more prevalent. So fully do I believe in warm, bright quarters that even on a rented place I have built a good hen house and put glass windows in the stable.

Albemarle Co., Va.

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Poultry Queries.

Another Defective Ration. — Anna Millard, Pleasant Hill, Mo., writes: "I keep 75 hens, 45 Leghorns and 30 Plymouth Rocks. Have a dry, warm house 30x12 with a 10x10 scratching shed at west end. Leghorns have 20 feet of house in day time and the Rocks have 10 feet of house and the scratching shed. Cement floor in house. They have grit, dust boxes, charcoal and fresh-warmed water. I keep floor covered with litter and at night or early in the morning I scatter a gallon of rye in the litter. At noon I feed a bucketful of mash and follow as nearly as possible the formula given in "A Well Balanced Ration" as printed in P. F. I use cooked vegetables or scalded clover, corn meal and dried blood in proportions given, and for the rest use bran; can't get ground oats very well. About 3 or 4 o'clock give Kaffir corn in the head. They seem to relish their feed and seem happy and contented. On very cold days I give parched corn for night feed. On pleasant days Leghorns are let out afternoons; can't let Rocks out, as they would get mixed with others. Rocks are year-old hens and Leghorns are one-third hens and two-thirds pullets. Now, what is the trouble? I only get about a dozen eggs a day. Have thought maybe the dried blood wasn't good. I get it from Kansas City and pay $4 per hundred for it. Is the 'B. B. & B.' meat meal you mention the 'B. B. & B.' advertised by D. W. Romaine of New York City? Can you tell me a good brand of meat meal or blood that I can buy in Kansas City or St. Louis, Kansas City preferred?" Your chief trouble is the rye. Rye is a very poor food in the raw state; cooked (as baked into bread) it is not so innutritious, but raw it does not nourish. Why this is so we do not know, and the analysis shows it to be near to wheat in fuel value. Drop the rye and feed wheat or oats (or alternate them) instead; at any rate stop feeding rye. The dried blood is all right, and is richer than meat meal or beef scraps; that is, if it is a good, pure article, which it ought to be at the price. It usually sells $40 to $50 a ton, at wholesale. Yes, the "B. B. & B." mentioned is Romaine's "Boiled Beef and Bone." Write him and ask if he has an agent near you; he may have an agent in Kansas City or St. Louis. You can get ground oats by buying a bag of oats, taking them to a feed mill and getting them ground; that is the way we used to get them.

A Fine Kidney Remedy.
Mr. A. S. Hitchcock, East Hampton, Conn., (The Clothier) says if any sufferer from Kidney and Bladder Disease will write him he will direct them to the perfect home cure he used. He makes no charge whatever for the favor.

Broodiness and Egg Laying. — A. Wampler, Knob Noster, Mo., writes: "When a hen gets broody will it decrease her next lay of eggs to prevent her sitting, or will she lay a larger number of eggs next time after mating, if she be allowed to sit a couple of weeks and then broken up?" There is a great difference in hens and no hard and fast rule can be laid down as to their broodiness and disposition to lay. In general, however, a hen quickly broken up when possessed by the broody fever, will lay a few eggs and then become broody again. If you let her sit a couple of weeks and then break her up it will take decidedly longer to break her up and longer for her to get back to laying again, and as she has had quite a long rest she will be likely to lay two or three times as many eggs before becoming broody again. The "mating" has nothing to do with her laying. A pullet will lay earlier and lay more eggs without being "mated" at all; keep the male birds shut away from them except at breeding time.

Blisters on Entrails. — S. E. White, Isett, Pa., writes: "I had a hen that appeared in good health, die suddenly. I opened her and her entrails were polluted with what looked like blisters or small eggs; there were thousands of them. What was the cause of it? I am feeding a high grade egg powder in the morning mash of corn meal and bran, and have them scratch for their corn, oats and millet. Am not getting many eggs, but fed the same last winter and got lots of eggs. Have never fed meat or bone, but am getting some of Romaine's 'B. B. & B.' I did not find a single egg in the hen that died." We cannot tell from your description what was the matter with the hen, but mistrust it was the "high grade egg powder" of which you speak. Generally speaking, those "egg powders" and "egg foods" are delusions and snares, and injure by irritating the digestive organs and overstimulating the liver. A good, well balanced food ration is the best "egg powder," and if you keep them busy and well fed they will lay eggs because "it is their nature to!"

Rabbits for Meat Food.—F. A. Crabtree, Effna, Va., writes: "Can I afford to pay five cents each for the common rabbits of Virginia and cut them up in a Mann bone cutter for my hens? I can buy plenty of them at this price. Blank's "Bone and Meat" costs ten cents a pound here, freight and all; which would be the best and cheapest? I have 50 P. Rock hens, have a good, warm house and scratching house for them; feed corn, buckwheat, wheat and oats, some sugar beets and other vegetables. I have received much help from the P. F." Yes, we would think it would pay to buy rabbits at five cents each to cut up for poultry meat, although something would depend upon how much they might weigh—how many pounds of meat and bone you got in one of them. If they weighed five pounds apiece you would be paying a cent a pound for it. Would think you could get Romaine's "B. B. & B." for a less price than you are paying for the "Bone and Meat" you speak of, and we know "B. B. & B." is a good article, and makes fowls lay eggs—we know because we have bought and used several tons of it.

◆

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◆

The Chief Constructive Force in Agriculture. — Two generations ago our grandfathers harvested their wheat and oats with the McCormick reaper; and little did they dream that the crude machine they used would be the forerunner of such marvelous advancement in the methods of harvesting grain as has been developed within recent years. Today more than two and one-half million agriculturists harvest their crops with McCormick machines. Since 1831, the year in which the first successful reaper was constructed in a blacksmith shop at Steele's Tavern, Va., the McCormick has been one of the chief constructive forces in developing the agricultural resources of the world. For more than three score years the McCormick has represented the highest attainment in the manufacture of harvesting machines, and this name has become a household word throughout the world. "A model machine" is the title of a new book which has just come from the press. It is an interesting publication and should be in the hands of every one who needs or operates a harvesting machine. When writing please mention the P. F., and ask for a 1903 McCormick calendar, if you have not received one, which will be sent, together with the book, without charge. Address the nearest McCormick agent.

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The Practical Farmer.

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PROF. W. F. MASSEY, Editor.

Philadelphia, March 14, 1903

We dug a plant of hairy vetch today, or rather, pulled it up and thus got but a small part of the great root. The top measured over three feet and there was a mass of it, too, for the plant weighed three-quarters of a pound. How is that for the 24th of February? An acre covered with plants like that, as closely as they could grow, would weigh at least 50,000 pounds, and what they would weigh by the time they were in bloom is hard to say. This plant had large nodules on the root, showing that the soil is infected, and we will take some of that soil and scatter it over the vetch in a field where it is not so large, and hope to get that infected, too. This plant was a volunteer from a small patch that grew in our garden last year, and made stems ten feet long. It has been found that the same microbe that lives on the garden peas will live on the vetch. Hence if you have a patch of vetch that is not doing as well as you like, just get some soil from an old garden where garden peas have been grown and scatter this over the field and note the results. This is what we are going to do. We are rapidly coming to the conclusion that hairy vetch is a better winter forage crop than crimson clover. It certainly is more sure to catch, and then it is hardy anywhere, for we have had a plant sent us from Michigan in April which was almost as large as ours in February. Then too, when we get a stand of the vetch and let some seed ripen we are certain to have a better stand there the next winter without any sowing.

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American Tea.

According to the report of the Secretary of Agriculture, the Pinehurst tea gardens of Dr. Shepard, of Summerville, S. C., now cover about 100 acres of land. The crop last year was about 4,500 pounds, and it is expected that it will reach 9,000 pounds in 1903. The Pinehurst gardens are working for a high grade of tea, and not trying to compete with the low grades of China tea. The Editor has tried the tea and knows that it is of very high quality, better than any that can usually be found in the stores. From this beginning it is evident that a great tea industry is to be built up in the South Atlantic States, and capital is being invested there in the business.

◆

Silk Culture.

Some visionary enthusiasts are trying to get up an interest in the production of raw silk in this country. Those of us who are old enough to remember the results of the great silk fever known as the Morus-Multicaulis craze of the thirties, are disposed to look with doubt on these efforts. In the former craze for silk culture many men made small fortunes in the cultivation and sale of the mulberry trees, and in Eastern Maryland, especially, the remains of these trees are found here and there, and buildings that were erected as cocooneries are still pointed out, though since turned into barns or dwellings on the farms. When our American people are content to work for a few cents a day, like the Chinese, there may be some prospect for feeding silk worms and making silk in this country. But at present there is not the slightest prospect that silk can be made here in competition with the Chinese, and the effort is certain to fail. Hence we advise our friends, particularly in the South, to be shy of the silk worms and mulberry trees, and to stick at their farming or gardening with the crops they know and can grow with success and profit.

◆

Experiment Station Work.

One of the most useful reference books which has come to our table of late is the first volume made up from the series of Farmers' Bulletins on Station work. The volume includes twenty of the Farmers' Bulletins, and puts in a compact shape for reference, the points of value in the investigations at the various Experiment Stations. One of the hardest tasks which a Station officer, who wishes to keep in touch with what other workers are doing, is to file the bulletins so that they can be easily accessible and referred to. As these accumulate by the thousand in the hands of every Station worker, he is often puzzled to find out how to keep them so they will be of use to him, and in no way have we ever been able to accomplish this satisfactorily. A card index and the filing of the bulletins by States helps greatly, but any method of getting at the original bulletins is very troublesome. Therefore we hail with great pleasure the present volume as furnishing a ready reference to the work of the various Stations on topics of general interest to the farmer. It will save the busy Station worker a great deal, and is a work that can be better done at the Department in Washington than anywhere else.

◆

Roots vs. Silage.

Every now and then some enthusiast who has seen a big crop of mangels or of sugar beets, goes into ecstacies over the growing of root crops for cattle. The example of the English farmers is cited and our farmers are urged to adopt their methods. Now the culture of roots is an important thing to the English stockman. He cannot grow Indian corn, and this makes all the difference in the world. Here, where the Indian corn crop is the king of all cereals for stock feeding, and where it can be grown at less than one-third the cost of the roots, silage will always be more economical and profitable for the stockman than roots. Having as much succulence as the roots, and a feeding value fully equal to, if not superior to the roots, there is no need for the American farmer to worry over a patch of mangels or sugar beets or swedes. We have grown fine crops of mangels and on the same field have grown as many tons per acre of Indian corn. The mangels cost $3 per ton and the corn in the silo cost $1 per ton, and one ton was worth as much as the other for feeding, while it was vastly easier to get out and feed the silage than it was to chop and feed the beets. Farmers from the Old Country are apt to stick to roots after coming here to farm, but if they are thoughtful men they soon comprehend that Indian corn is the great forage crop of this country, and they soon let mangels alone.

◆

Handling Manure.

For many years the Editor of the P. F. has advocated and practiced the getting out of manure on the land as fast as made. For a while only here and there a paper or writer agreed with him, but it is pleasant to notice that the practice is becoming more and more common. Some farmers in the North are afraid to haul out and spread on frozen ground, fearing that with the thaw the manure may be largely lost. But these fail to realize the absorptive power of the soil and its capacity for holding on to plant food, especially if the soil is clayey. But admitting that there may be some leaching of the manure, does not the same thing occur in the open barnyard? And does not the leaching go where there are plants to feed rather than where there are none, and in the field, especially on a sod, the manure cannot leach away without coming in contact with roots that need it. We have, years ago, spread manure on snow, and the darkening of the surface melted the snow at once and the manure went to the soil more evenly than if spread on the naked ground. We had far rather get the manure out on the land than keep it in a covered barnyard. We have a covered yard, but we do not allow any manure to stay there. If too wet to haul on the field we haul to the compost pile, where we have an abundance of woods earth ready at all times to mix with it. We have never seen any way for storing or keeping manure that did not cause more loss than the hauling of it out as fast as practicable and spreading it from the wagon.

◆

Low Priced vs. Cheap Fertilizers.

In reply to an Indiana correspondent we have endeavored to show that low grade commercial fertilizers are really the most costly so far as the matters of value to the farmer in them are concerned. In this case nitrogen costs the farmer about 76 cents per pound, while if he bought good materials and mixed them himself it would cost about 15 cents per pound. Farmers are too apt to consider merely the price per ton for the fertilizer and fail to examine into its composition. As a rule the fertilizers that are priced the highest per ton will furnish plant food at a far lower price than the low priced article. There is another advantage in the higher priced article. You need less of it to produce the same results, and hence there will be a saving in freights. We have tried to show this heretofore in the matter of buying the potash salts, showing that kainit with but 12 per cent. potash, is far more costly than the muriate which has 50 per cent. of potash in it, for at the same price for the potash the farmer will have to freight four tons of the kainit to get as much potash as he would get in freighting one ton of the muriate. But too many farmers merely look at the cost of the ton of each, and when they find that the kainit is about one-fourth the price of the muriate they are apt to think it cheaper, and they freight 88 per cent. of useless salt to get the potash they need, when they need to have freighted but 50 per cent. to get four times as much. We cannot too often repeat that it is the percentage of nitrogen, phosphoric acid and potash in a fertilizer that constitutes its value, and that when a manufacturer says that his article has from 1 to 2 per cent. of any of these you had better assume that the 1 per cent. is the correct figure. And when he tells you that this percentage is "equivalent to" a larger percentage of something else it does not mean that there is anything else in it, but that these "equivalent to" figures are only put there to befog the farmer. In North Carolina the manufacturer is required to state the exact percentage he claims of phosphoric acid, nitrogen and potash. Only this and nothing more, and this should be the law in every State in the Union.

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Raise Those Clubs Now.

The hurry of spring and summer work will soon keep our friends busy, so that anything they intend to do to increase the circulation of the P. F. in their respective neighborhoods must be done now. Those clubs of six are the most effective way we know of to help along the good work. At 50 cents per year the P. F. is the greatest bargain in the agricultural reading line we know of. It only costs that in clubs of six, and the club raiser has a choice of one of thirteen valuable premiums. Tell your friends how our paper can help them through the growing season, by the timely instruction that can be found in its columns from week to week. Thousands of farmers in every section of the United States and Canada tell their actual experiences through its columns, and its readers have the benefit of this combined practical experience on the farm, in all its departments.

COMMERCIAL

Philadelphia, March 7, 1903.

WHEAT.—

The market ruled steady under light offerings, but there was little or nothing doing. The world's visible supply, as calculated by Bradstreet's, showed a decrease of 1,902,000 bushels.

No. 2, red	79 @ 79½
No. 2, Penna. and Del.	80 @ 80½

CORN.—

There was a further decline of ¼@½c. in this market, due to the indifference of exporters and to general pressure to sell. Sales of two cars steamer No. 2 yellow, track, at 52c., and five cars No. 2 mixed, in export elevator, at 52½c.

No. 2	52¼@ 52½

OATS.—

The market for car lots ruled steady under moderate offerings, but demand was light. Sales of one car No. 2 white, clipped, in special bin in Twentieth Street Elevator, at 43c., and 1 car do. do., track, at 43c.

No. 2, white clipped	43

BUTTER.—

Receipts, 940 tubs and 1,424 boxes. Owing to the extreme scarcity of fancy creamery, holders were able to maintain steady prices on this description in spite of the decline in other markets, but the lower grades, which comprised the great bulk of the supply, were weak and unsettled under a light demand and general pressure to sell. June creamery and ladle-packed butter were also dull and weak, with holders anxious to clean up supplies. Fancy prints were in light supply and sold promptly at outside rates, but offerings were mostly of the lower grades, which were dull and irregular.

Best prints, nearby	31 @ 32
Firsts, creamery	28 @ 30
Seconds, creamery	25 @ 27
Ladle packed	14 @ 16

CHEESE.—

Receipts, 385 boxes. Offerings were moderate and the market ruled steady, with a fair jobbing business.

Full cream, choice, small	14 @ 14¼
Full cream, fair to good	13¼@ 13¾
Part skims	10 @ 12

LIVE POULTRY.—

Demand was fairly active and the market ruled steady under moderate supplies.

Fowls, hens, per lb.	13
Winter chickens, per lb.	18 @ 20
Ducks, per lb.	15 @ 16
Geese, per lb.	12 @ 15
Turkeys, per lb.	15 @ 16

DRESSED POULTRY.—

Offerings of fowls were more liberal and the market was weak and lower under a light demand. Fancy soft-meated chickens were scarce and wanted, but there were free offerings of staggy stock, which was dull. Other descriptions were in moderate supply and quiet at quotations.

Fowls, per lb.	12½@ 14
Chickens, per lb.	14 @ 17
Turkeys, per lb.	17 @ 20
Ducks, per lb.	18 @ 20

EGGS.—

Receipts, 2,485 crates. Receipts continued light and the market further advanced ½c. under a good demand. Business in choice stock was chiefly at 16½c., though exceptional sales were reported early in the day at slightly lower prices. Many invoices contained small-sized and dirty eggs and this class of stock had to be sold at concessions.

Nearby fresh, at mark	16½
Western, choice, at mark	16½

APPLES.—

Offerings of apples were liberal, but there was a good outlet for choice fruit and prices ruled firm.

Spitzenberg, fancy, per bbl.	3.00 @ 3.50
Ben Davis, fancy, per bbl.	2.00 @ 2.50
Baldwin, fancy, per bbl.	2.25 @ 3.00
Greenings, fancy, per bbl.	1.75 @ 2.50
Kings, fancy, per bbl.	2.50 @ 3.00
Gano, fancy, per bbl.	2.50 @ 3.00
Gillifiower, fancy, per bbl.	2.25 @ 3.00
Northern Spy, fancy, bbl.	1.75 @ 2.50

GREEN FRUITS.—

Cranberries were higher, owing to scarcity. Oranges were in fair supply and demand at steady prices. Strawberries were kept closely sold up and values ruled firm.

Cranberries, Cape Cod, bbl.	11.00 @ 14.00
Jersey, choice, per crate	3.00 @ 4.00
Strawberries, Fla., per quart	25 @ 40
Oranges, Cal., navels, boxes	2.25 @ 2.75
Grapefruit, Fla., per box	3.00 @ 6.50

VEGETABLES.—

There was a good outlet for choice potatoes, prices of which ruled firm under moderate offerings. Ordinary stock was plentiful and quiet at inside prices. Onions were weak and lower under excessive supplies and general pressure to sell. Cabbage was in fair request and steady, with moderate offerings.

Cabbage, Danish, per ton	7.00 @ 8.00
Eggplants, Fla., per crate	1.50 @ 2.50
Lettuce, So., ½-bbl. basket:	
Fancy	1.25 @ 3.50
Peas, So., 1-3-bbl. basket	2.50 @ 2.75
String beans, So., per crate	2.50 @ 3.00
Tomatoes, Florida, carrier	1.00 @ 3.50

POTATOES.—

State & West., per bu.	60 @ 70
Sweet potatoes, per basket	60 @ 70

BEANS AND PEAS.—

Supplies of beans were liberal, and the market was weak under a light demand. Green peas were quiete and unchanged.

Marrows, H. P., per bu.	2.60 @ 2.65
Scotch peas, per bu.	1.75 @ 1.80

HAY AND STRAW.—

Receipts, 290 tons of hay and 6 cars of straw. There was a fair demand for No. 1 hay, prices of which ruled steady under small supplies. Offerings were mostly of the undergrades, which were quiet and irregular. Straw was in moderate supply and steady, with a fair demand.

Timothy, choice, large bales	18.50
Timothy, mixed	14.00 @ 16.00
Straw, straight rye	16.50 @ 18.00
Wheat	10.50 @ 12.00
Oat	9.50 @ 11.00

FEED.—

Feed was in small supply and steady, with a fair demand.

Bran, bulk, winter, per ton	21.50 @ 22.00
Bran, sacked, spring	21.50 @ 22.00

COTTON.—

Cotton was firm and further advanced 10 points under stronger reports from New York, but ruled quiet on a basis of $10.45 per cwt. for middling uplands, cash terms.

Middling upland, cwt.	10.45

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle steady.

Extra steers	5½@ 5¾
Good steers	4⅞@ 5¼
Medium steers	4¼@ 4¾
Common steers	4 @ 4⅛

CALVES.—

Veal calves fairly active but lower.

Extra calves	8 @ 8½
Fair to good	6½@ 7½
Poor and common	5 @ 6
Grassers	3½@ 4½

HOGS.—

Hogs easier.

Fat hogs, Pa., Del. & Md.	7 @ 8¾
Fat hogs, Western	9½@ 9¾

SHEEP.—

Sheep and lambs active.

Sheep, extra wethers	5¾@ 5⅞
Sheep, good	4½@ 5½
Sheep, medium	3½@ 4¼
Sheep, common	2¾@ 3¼
Lambs	5 @ 7¼

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New York, March 7, 1903.

WHEAT.—

No. 2, red	82⅝@ 83⅛
No. 1, Northern Duluth	90⅝

CORN.—

No. 2	59
No. 2, white and yellow	56 @ 56½

OATS.—

No. 2, white	44¾
No. 2, mixed	44¾

HAY.—

Prime, large bales, 100 lbs.	1.05

BUTTER.—

Receipts, 6,112 packages. Fresh creamery butter opened weak and notwithstanding the arrivals were not considered heavy by the trade, broke prices badly, and at the close a decline of 1c. per pound was established on nearly all grades. Held creamery went down in the slump and settled at 21@22c. for extras and at 19@20c. for firsts. Eastern dairy dropped to 23@24c. Other grades sold slowly in the quoted ranges. Sales on 'change were 25 tubs of extra June creamery, certificate attached, spot delivery, at 20½c.; 48 tubs do at 12c.; 100 tubs of June creamery extras, seller the month of June, at 19½c.: 50 tubs extra June creamery, seller the week, at 21c.; 50 do at 21c.; 50 tubs extra June, at 19⅝c.; 50 do at 19½c.

Creamery, extra	27
Creamery, firsts	24 @ 26
Creamery, seconds	21 @ 23
State dairy, tubs, fancy	23 @ 24

CHEESE.—

Receipts, 1,556 boxes included 300 in transit for export. Out-of-town orders are of small size, but the steady depletion of supplies adds firmness to the market and every condition strongly favors the selling interest. Exporters are not buying at present prices. Liverpool prices are higher on white cheese.

Full cream, small, fancy	13¼@ 14½
Full cream, large	14¼
Light skims, small, choice	11¼@ 12½

LIVE POULTRY.—

Fowls, selected, heavy, lb.	13
Roosters, young, per lb.	12
Turkeys, per lb.	15
Ducks, average, per pair	70 @ 1.00
Geese, average, per pair	1.37 @ 1.75

DRESSED POULTRY.—

Turkeys, hens and toms, lb.	17 @ 18
Chickens, Phila. broilers, lb.	23 @ 25
State & Penna. broilers, lb.	21 @ 23
Western, average best, lb.	13 @ 15
Capons, average best per lb.	18 @ 22
Fowls, West., scalded, per lb.	13½
Squabs, large, white, doz.	2.75 @ 3.00
Dark, per doz.	1.25 @ 1.50

EGGS.—

State and Pennsylvania—	
Fresh gathered, firsts	17½
West., fresh gathered firsts	17
So., fresh gathered firsts	16½

GREEN FRUITS.—

Oranges, Fla., brights, boxes	3.50 @ 4.25
Oranges, Fla., russets, boxes	2.50 @ 3.50
Tangerines, Fla., straps	4.00 @ 6.00
Tangerines, Cal., straps	2.00 @ 6.00

VEGETABLES.—

Beets, N. O., per bbl.	1.50 @ 2.50
Cabbage, red, per bbl.	80 @ 1.00
Cauliflower, Cal., per crate	2.50 @ 2.75
Celery, Fla., per case	2.00 @ 2.50
Celery, Cal., per crate	1.50 @ 2.75
Lettuce, Romaine, per bbl.	3.00 @ 6.00
Onions, yellow, per bbl.	1.50 @ 2.25
Onions, white, per bbl.	5.00 @ 7.00
Onions, red, per bbl.	1.25 @ 1.75
Radishes, per 100	2.50 @ 4.00
Squash, Hubbard, per bbl.	1.25 @ 1.50
Turnips, Russia, per bbl.	75 @ 85
Tomatoes, Florida, carrier	1.50 @ 2.50

POTATOES.—

Receipts or domestic, 13,680 bbls. Imports, 329 bbls., mostly from Bermuda. The demand for domestic potatoes was not very active, but strictly prime grades were steadily held as quoted. Bermuda and Havana potatoes are selling slowly. Sweet potatoes dull.

Maine, per sack	2.00 @ 2.25
Long Island, bulk, per bbl.	2.00 @ 2.25
Jer. and up-river, per bbl.	1.75 @ 2.00
Sweet potatoes, Jer., per bbl.	2.00 @ 3.75

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WOOL PRICES.
[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FEECE WASHED.	
XX and above	30@32
X	28@29
Medium	30@32
Quarter blood	30@31
Common	26@28
UNWASHED (light and bright.)	
Fine	19@22
Medium	22@23
Quarter blood	22@23
Coarse	20@21
UNWASHED (dark colored.)	
Fine	16@17
Fine medium	17@19
Medium and quarter	19@20
Coarse	17@18
COMBING AND DELAINE FLEECES.	
Washed fine Delaine	32@33
Washed medium	30@32
Washed low	30@31
Washed coarse	27@28
Unwashed medium	23@24
Unwashed quarter blood	23@24
Braid	21@22

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Explanation of Market Terms.

The market quotations of fertilizers and fertilizer materials are certain terms which may not be familiar. For instance, tankage or any other material containing nitrogen may be quoted at a certain price "per unit" of ammonia, and elsewhere you may find the price of potash salts or phosphoric acid as so much per unit. In the fertilizer trade these things are always sold by the unit, a unit being one per cent. on the basis of a ton, or twenty pounds of the ingredient named. A unit of ammonia, then, at $2.50 would mean that the ammonia is worth 12 cents per pound. Reduce this to nitrogen and you will find that at this price the actual nitrogen costs a little over 14.5 cents per pound. Then when muriate of potash or sulphate of potash are quoted 80 per cent. in the case of the muriate, it does not mean that there is 80 per cent. of potash, but of the muriate pure, which would make the actual potash 50.56 per cent. If high grade sulphate of potash is quoted at 90 per cent. it means that the actual potash in it is 48.6 per cent. In other words, to find the actual potash in muriate multiply the percentage by 0.632. To get the actual potash in the high grade sulphate multiply the percentage by 0.54. The same rule will apply to the double manure salt or low grade sulphate of magnesia-potash.

AGRICULTURAL FERTILIZERS.

AMMONIATES.	
Nitrate of soda, per cwt.	2.25 @ 2.30
Sulphate ammonia, per cwt.	3.12½@ 3.15
Tankage, per unit ammonia.	2.20 @ 2.25
PHOSPHATES.	
Acid phos., 12-16 p. c., unit.	60 @ 67½
Bone black, spent, per ton.	17.00 @ 18.00
Ground bone, per ton	21.00 @ 23.50
POTASH.	
Muriate potash, 80 p. c., future shipment	1.83 @ 1.95
Manure salt, high grade (90 to 95 p.c. sulphate potash) ship., basis 48 p. c.	2.11 @ 2.20
Manure salt, double (48 to 49 p. c., less than 2½ p. c. chlorine), per lb.	1.12 @ 1.24

JOHN J LARIMERS CO LATROBE PA

THE LARIMER DITCHING PLOW

WITH SUBSOIL ATTACHMENT.
If you have ditching to do, this plow will save you more money than any implement you have on your farm. It will reduce the cost of digging ditches from one-half to two-thirds. Send for descriptive circular.
John J. Larimer & Co., 153 S. Jefferson St., Chicago, Ill.
(Formerly of Latrobe, Pa.

PROLONG YOUR LIFE by saving your strength. Every woman should send or a 30 day free trial of our washing machine.
The 1900 Washer Co., 23 K State St., Binghamton, N. Y.

A MACHINE
to weave fence of coiled hard steel spring wire at half price of factory fence. $25 buys wire for 100 Rod Fence. Catalogue Free. Address,
Carter Wire Fence Mach. Co.
Box 206 Mt. Sterling, O.

Save Your Kitchen Grease

Easy and quick is soap-making with

Banner Lye

With one can—10 cents—you can make ten pounds of pure hard soap or twenty gallons of soft soap in ten minutes.
No boiling, no large kettles required.

Dissolve a can of *Banner Lye* in 3½ pints of cold water. Melt 5½ pints of clean grease. When cool, pour the *Banner Lye* water into the grease, and stir for a few moments.

This will make better soap than you can buy.
Send for our free book, "Uses of Banner Lye."
It is full of information of interest and value to farmers, dairymen and housekeepers.
Any storekeeper can sell you *Banner Lye*. If he hasn't it he can get it quickly of his wholesaler
The Penn Chemical Works, Philadelphia, U.S.A.

The Maule Seed Book

for 1903 is free to all interested in gardening who mention this paper. If you want an up-to-date garden you ought to have it, the best seed catalogue I have ever published. The first edition alone costs over $37,000. Address

WM. HENRY MAULE,
1711 Filbert Street,
PHILADELPHIA, PA.

CHAMPION MOWER

DRAW CUT

DRAWING the finger bar of a mower from a point ahead instead of pushing it from behind gives the wheels more traction and the machine more power. This is the reason for the great cutting power of the Champion, just as it was the reason for the great cutting power of the old rear cut mowers. The Champion is front cut, but **it is also draw cut,** and combines the cutting power and durability of the old rear cut mowers with the safety and convenience of the modern front cuts. The Champion draws the finger bar entirely—it does not push it in the least, and in this important particular is not equalled by any other. The Champion has other valuable improvements, among them a simple and effective **lining device** for the finger bar, and a **superb pitman** having new and improved [illegible] connections both to the knife and to the fly wheel. No cramping or binding is possible with the Champion pitman, while provision is made for taking up wear and lost motion, preventing pounding and breakage. The fly wheel pin is at all times surrounded by oil, which cannot be thrown out and wasted by the revolution of the fly wheel, thus preventing heating and wear at this important and heretofore troublesome point on a mower. Write for catalog describing this wonderful modern mower, also Champion hay rakes and binders. Handsome calendar free if requested.
CHAMPION DIVISION, INTERNATIONAL HARVESTER COMPANY OF AMERICA, CHICAGO.

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

My Mother's Song.

MALVINA J. THOMPSON.

In memory, tonight I see
  An evening long ago;
The wind was fiercely blowing
  And the ground was white with snow,
But within was warmth and brightness,
  And the sound of childish glee;
But the best was mother singing
  "Rock of Ages, cleft for me."

And although since then I've battled—
  Often worsted in the fight—
The memory of my boyhood home
  Has helped to keep me right.
And when I've nearly fallen
  And the way seemed dark to me,
I have seemed to hear her singing,
  "Let me hide myself in Thee."

I am going home tomorrow—
  To the home where I was born—
To see the friends I love so well,
  And see the growing corn.
There are many friends to greet me,
  But I long the most to see
Mother, at her knitting; singing
  "Rock of Ages, cleft for me."

Harford Co., Md.

Editorial Chat.

We regret the fact that some helpful thoughts are lost because copy is written on both sides of the paper. Be sure and write on one side only, and do not cramp the lines. If you have never edited or set type you can form no idea of the "puckers" such a manuscript brings in one's forehead. The art of good writing has nearly "gone out," but we can all avoid cramped work. Leave room for corrections. We do not mind mistakes, if only we have room to set matters right. On the other hand, we object to surplus of heavy paper; postage costs money. Be particular and "mejum" and all will be satisfactory.

• • • • • • • •

It speaks well for our H. C. family that their interest in our shut-ins "abateth not," as is evidenced by the following:

"Please give me Ellen Kinney's address. It may be I can do something to brighten her life a little. I believe in passing things on—books, pictures and other small things. Even a postal card once a week helps to break up monotony."

Another says: "I would like if the H. C. sisters would make Ellen Kinney a worsted quilt; that is, each of us send a worsted block — crazy patchwork — stitched nicely, with name on a plain block in centre. I think it would amuse her to look at the different designs and stitches, and names, and she and her mother could finish it up when they liked. Let each block be fourteen inches square, lined with one thickness of sheet wadding, all nicely stitched where the pieces join. I will endeavor to send more than one." Signed, Arline Stebbins, Waunakee, Wis.

Send direct to Ellen Kinney, Brockport, N. Y., care of Mrs. Wm. Thompson.

An Ohio sister suggests something else, but it would hardly be advisable, we think, in this case. It reflects great credit, however, upon the kind-hearted author.

• • • • • • • •

But it is not to the shut-ins all the good things go. We are ourself in receipt of the sweetest thing, or at least the photo of three of the "sweetest things." Babies! There, you can't beat that! Ella, Walter and Velma Bornemeir, of Greenwood, Neb. You know their mamma wrote us about them. O, but they are cunning! Ella—three years old—was so afraid Velma would fall out of the chair that she held to her with both hands, and in consequence, looks like a tiny mother. Walter, at the left, is a perfect boy—a very pretty one, too, we think, with his jaunty curls. Altogether it is a winsome group, a trio to make any parents' hearts glad. We are most grateful for the kind thought that sent the photo to us. We hope to hear often from the mother. You who are interested in the babies will recall a letter from Mrs. Hattie Peacock, in which she tells of her success in making a model out of her little Ruth. Later, a neighbor of her's wrote us privately (so you must not tell): "Ruth is a wonder to all mothers about here — bright, animated, lovable — all that a child should be. It is really a treat to have her and her parents visit one. The restless little hands leave things alone; they are not hers and so she must not meddle. The only thing she asks for is to have the piano or organ opened, and we all gladly do that for her. I write this to you because a neighbor said to me: 'If we did not know Ruth and her mamma, we could hardly credit it.'" And we mention it here for the encouragement of other young mothers who want to raise the little ones right. A mother on our street was laid to rest this week, and our heart is sad because of the little boy left motherless. He was her only child, and she has loved and petted him so. Until her illness they were really always together. It reminds us of the little child who, not long since, lost her mother and when evening came, she sobbed: "Who will hear me say my prayers now?" Of a truth, who is there to hear the prayer of the motherless child?

If you are a mother, surrounded by your little ones, in even a home where great economy must be practiced, be happy and thankful. Don't worry over your "lot." It is a most enviable one. Only look to it that you keep the jewels bright for the Master. In rearing one child aright you may be the direct means of saving thousands of souls in the future.

In the Kitchen.

MRS. W. H. WARE.

The following are some of my pet recipes. This omelet never goes begging: Three eggs, one tablespoonful flour, one cup milk and a little salt. Beat eggs and flour together till very light; add milk and salt, pour into a hot, well buttered spider and cook over a moderate fire. When set, turn half over and set in the oven for fifteen minutes.

MOLASSES CAKE.—Two cups molasses, one-half cup sour cream, one cup sweet milk, one teaspoonful of cinnamon and one of salt, four cups flour and two teaspoonfuls soda dissolved in one-half cup hot water. Mix in the order given; bake in quick oven and you will want to try it again. I bake it by the "acre," it is so well liked in our family.

Another favorite dish is chocolate pudding. One quart of milk, brought to the boiling point, four tablespoonfuls cornstarch, one tablespoonful of cocoa, one-half cup sugar and a little salt; mix the dry ingredients before wetting with a little of the milk. Cook till well thickened and serve with whipped cream flavored with vanilla.

A good layer cake is made from the following recipe: One and one-half cups flour, two teaspoonfuls of cream tartar and one of soda, and a scant cup of sugar. Mix thoroughly. Break three eggs into a coffee cup with two tablespoonfuls melted butter and a teaspoonful of flavoring. Beat well, fill up the cup with milk and add to the dry ingredients; bake in three parts in a quick oven and fill with any desired filling.

A good way to prepare lambs' livers is to boil in salted water, chop fine, mix with egg and bread crumbs and mould into croquettes. Fry in melted butter; garnish with lettuce.

POTATO SOUP.—Peel and boil till soft, six potatoes and one large onion. Mash fine in the water in which they were boiled, add salt and pepper to taste, and a pint or more milk; let come to a scald, but not boil.

Have had good success in putting up rhubarb in cold water. Peel and cut up the rhubarb into small pieces. Pack into glass jars and pour in cold water until the air bubbles. Seal immediately. If the rubbers are good it will keep perfectly.

My way of canning green corn is as follows: Cut the corn from the best ears and fill the glass jars, pressing it in solid. Put a layer of straw in the wash boiler, put in jars and fill the boiler with water up over the tops of the jars. Boil three hours. Let stand till cool then screw the covers on tight.

When beating whites of eggs put in a pinch of salt and hasten the operation.

Put a little cornstarch into your salt when filling your shakers, to keep it from lumping.

When a greasy dish is to be cleaned, rub it well with meal and it will wash much easier.

For washing white flannels use some good white soap and moderately warm water and you will not be troubled by shrinking.

Hampden Corner, Me.

Fashion Fancies.

Since there is little new at this time of year in the way of fashions, we will vary our "fancies" by inserting a clipping from the Inter-Ocean, sent by an H. C. reader, who adds: "I think it would be a nice subject for parents and teachers to write about. A Chicago teacher says: 'I wish it were possible for every child to wear a uniform.' The questions suggested are: 'Is caste to be encouraged in the schoolroom?' 'Who is responsible for ostracism?'" Will our friends read, think and discuss the matter?

"FOR THE CHILDREN TO WEAR.—Ideas in regard to the proper clothing for children have changed entirely since the days of the flannel frock and long-sleeved gingham apron. At the beginning of the twentieth century the fashions in garments for small men and women are of quite as much importance as the fit and texture of the clothes worn by their mothers and fathers. You may say what you please about clothes not making the man (or woman). The fact remains that in no other place is caste so distinctive as in the schoolroom, and the old-fashioned 'tackily' dressed child is practically ostracised by its smarter-gowned schoolmates."

Poultry Notes.

VELMA CALDWELL MELVILLE.

An Appleton would-be fancier writes of her brief incubator experience. It was not satisfactory, and she did not like her brooder, either, and wants us to "talk" a bit on the subject. With one year's experience we do not feel qualified. We only know that incubators, like all other "machines," need someone who understands machinery, to run them. It is strange that the amateur ever succeeds in even setting up one of these affairs properly. When ours came, the utmost we could do toward putting it together was to hold the lamp and hunt for the screw-driver. (It was evening, so our services were valuable:) But we never could have got it running alone. The Better Half, however, can tinker anything from a watch to a threshing machine, and whenever he managed it all went well. There is everything in knowing how to do anything. Talk about a child running an incubator! As well talk of a child running a steam engine. "Practice makes perfect," and we expect to do much better with our incubator next season than we did last. Nor would we sanction the advice of this sister's husband to "throw the thing out doors and try some other kind." We believe in giving everything and everybody fair play, and the incubator in question is one of good repute; one called by many "the best."

Our advice is, keep it and learn to manage it. Be able to bring out of it the best there is in it before you condemn it. Your last year hatches were fair. Ours were little better, but we have no idea of throwing our machine out doors just yet. We agree with you that the brooder—most brooders—can be improved. We maintain, as we have heretofore, and as many brooder makers are now acknowledging—that for artificial brooding the floor should be warm. It is all nonsense to talk about the hen not warming the chicks' feet, and about sticking close to nature, etc. The incubator chick is so far removed from natural laws that we can warm his poor little feet and be in no danger of over-coddling him. The ideal brooder must be only moderately warmed, but the heat must be below, above and all around, and there be no hover. Some of our writers have much to say about the "lonesome bucks." Well, if there is to be no floor heat, bring on the hovers; but where the tiny birds dispose themselves flatly over the bottom of the brooder, they never need them. To remedy the evil in the overhead-heated ones that we already possess, we may place hot bricks on a bench and put the brooder on these. If it is in very cold weather, it might pay us to have an extra set in the heater and change them about three o'clock in the morning. We are supposing the brooder to be in the house somewhere. One thing we learned to our sorrow last summer, and that was that little chicks can bear neither extreme heat nor cold. They must be kept just right, and to determine what "just right" is will be a problem sufficient for each of us. Let us not blame the machines until we can intelligently manipulate them. We wonder if the Appleton inquirer folded carpet and put in the bottom of the chamber under the egg tray. This simple feat, we found, kept the temperature up and helped steady it.

Further, she says: "We have a large, well ventilated cellar, with one drawback. In a very wet season, or when a large body of snow goes off with a rush, the bottom will be quite wet for several days. I wonder if my incubator would do any better there."

We should not be willing to risk valuable eggs in such a place, but we know incubators are successfully operated under worse conditions. You might make the experiment with common eggs, early in the season, and see. If any of our fanciers have tried this with success—or even failure—we would like to hear from them. Personally, we are not as enthusiastic over "early hatches" as are some. Unless one has every convenience, such as large, well warmed poultry houses, plenty of brooders of varying size, and unlimited time, better wait until March, anyway; April would be better. A stunted chicken is the most hopelessly hopeless thing of all. The scarcity of fowls this year makes us feel to encourage those who write asking our opinion of "the poultry business as a business." The demand exceeds the supply, and there is no better sign of a paying business or surer guarantee that it is not overdone. People must have eggs, and chicken is today a luxury on a majority of tables.

SORE NECK

Take Scott's Emulsion for scrofula. Children often have sores on the neck that won't heal up. The sores may come and go. Parents may not know what's the matter nor what to do. Scrofula is the trouble and Scott's Emulsion is the medicine.

Scott's Emulsion heals the sores. But that is not all. Scrofula leads to consumption. This is the real danger.

Scott's Emulsion is the "ounce of prevention" that keeps off consumption.

We'll send you a little to try, if you like.
SCOTT & BOWNE, 409 Pearl street, New York.

DIETZ

Gold Blast Lanterns.
They burn fresh cold air and that means strong, pure white, steady light. For perfect convenience and safety, there is nothing that will so certainly suit your needs as
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A Recent Literary Walk.

WM. LEA.

As "D'ri and I" walked in "Judith's Garden" we met "Monsieur Beaucaire," "The Cavalier," "Of the House of De Mailly" "When Knighthood was in Power," "In Search of Madamoiselle" "Audrey," "The Lady of France." They had been wandering "Up and Down the Sands of Gold" away from "The Voice of the People," as he made "Seige of Lady Resolute," hoping he would "Amor Victor" and that she would soon be his "To Have and to Hold."

But his "Ruling Passion" was "Pro Patria" and when "Sir Christopher," "Count Hannibal" and "Sir Richard Calmady," "Expatriate," passed, he said to her "Tarry Thou Till I Come," and followed them to talk of "The Battle of the Strong" and "The Crisis" of "The Temporal Power" of "Lazarre," whose "Puppet Crown" and "The Role of the Unconquered" would soon be monopolized by the "Eternal City" unless rescued by another "Joan, of the Sword Hand." We sat for awhile on "The Red Rock" at "The Gate of the Kiss," listening to the "Summer Hymnal" of the "Song of a Single Note" of "A Speckled Bird," and watching the shadows of the leaves like "Leopard's Spots." "Mistress Brent" and "Mrs. Wiggs of the Cabbage Patch" passed us, talking of "The Ways of the Service," the "Intrusions of Peggy," the "Portion of Labor" of "Julietty" and "The Story of Mary McClane" about "The Spenders."

Passing on, we gave "The Right of Way" to "Three Men on Wheels." They were "Janice Meredith," "The Man from Glengary," "Eben Holden," "The Virginian" and "David Harum," "The Gentleman from Indiana." We next met "Gabriel Tolliver" and "Cecilia" driving "The Lodge Goat," given him, he said, by "Your Uncle Lew" of "Stringtown on the Pike." They were leading the "Hound of the Baskervilles."

A laughing group from "Castle Craneycrow," consisting of "The Two Van Revels," "Paul Kelver," "Dorothy South" and "Dorothy Vernon of Haddon Hall," were viewing the beauties of the garden. They were discussing "Ranson's Folly" on the "Dark of the Moon." He will be "The Conqueror" of the "King of Honey Island," which is "Not on the Chart." I heard also a scrap of the "Confessions of a Wife," the incidents of a "Bath Comedy" and "Redemption of David Corson." My companion and I each "Wanted—A Chaperon." My walk here ended, as I had to keep an appointment with "Alice of Old Vincennes," whom I had come "Up from Georgia" to meet at "Rockhaven."

Marietta, Ga.

Judge Ashman's Opinion on Woman Suffrage.

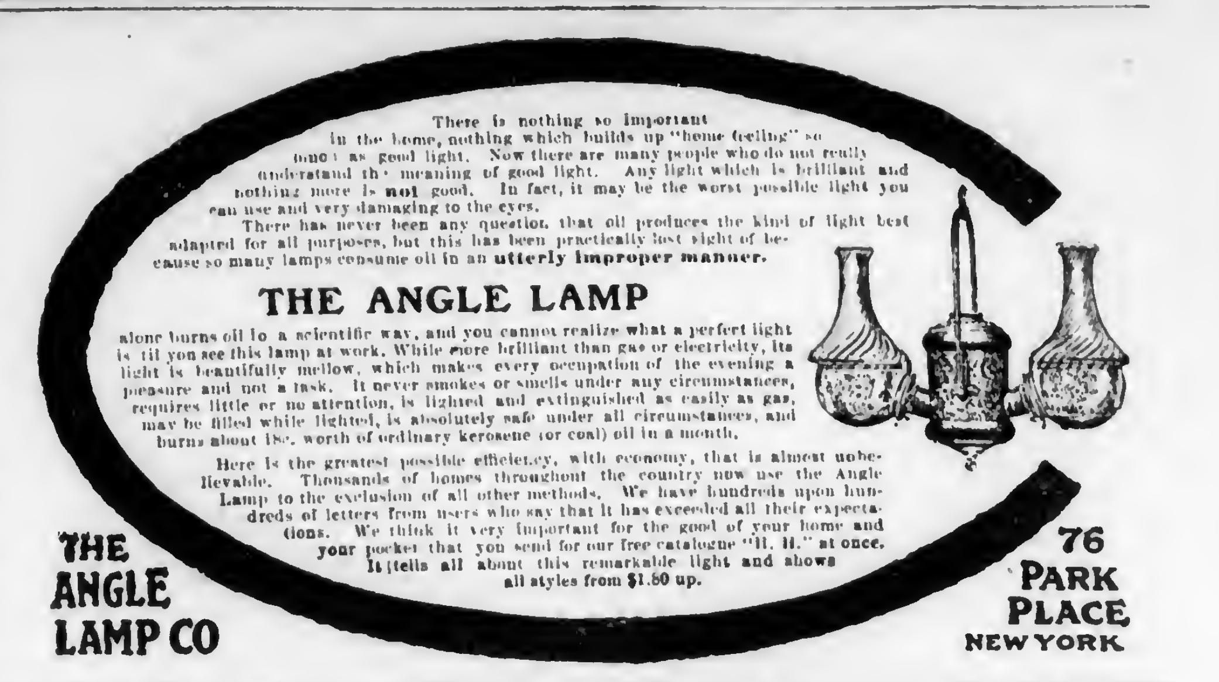
"Woman suffrage is one of the few questions in morals and politics about which it has always seemed to me there was scarcely room for conflicting opinions. The axiom that taxation without representation is tyranny, would seem to secure the franchise to woman as a matter of indisputable right; and I have met with no objection on the score of policy to its exercise by her, which has not seemed puerile and selfish. The plea that she is mentally incapacitated to exercise a sound judgment in civil matters is grotesque when we consider the mental make-up of thousands of men who throng the polls and in effect control the destinies of a party; and the plea that her womanly duties are incompatible with the duties which she owes the State, has been disproved by experience. After all, the convincing argument with me is that the average woman is on a higher moral plane than the average man; that she is a worse sufferer than he from the mischiefs of misrule; that instinctively her voice would be raised for social order, and that her presence at the ballot box would be, as it now is in the church, a force upon the side of enlightened rule."

Correspondence.

Mrs. J. Robert Moore, Moore, Wash., writes: In the P. F. of the 20th of December I read an article from Mrs. Park Almedus. In it she speaks of making cheese, in a small way, for family use. As I have been unable to make a success of it, will she be kind enough to give me her method from the beginning?

Ella Johnson Brice, Tira, Texas, writes: Through the H. C. I wish to talk awhile to the overworked, tired housewife, that has all morning been dusting and putting the house to rights; and after it is done she sighs and thinks of her neighbor's neat house over the way that never seems to be any trouble to keep in order. Now let us examine and find the difference in the management of these two homes, and we will have solved a problem that vexes many women. The first housewife mentioned, whom we will call Mrs. A., has been a student of economy in a sorry school, for she cherishes the idea that you must save every scrap of everything. Nearly every paper is saved. One has a recipe for cake, another a sermon, another a cure for some common disease. In some out-of-the-way room you will find old clothing, hats, shoes, papers, letters, tin cans, bottles, dishes, clothing too old-style for best wear, too good for every day, and from this room they creep to every nook and cranny of the whole house. She has everything you can call for, but when called on for any certain thing can never find it without a weary hunt, and when found it hardly fills the bill. Mrs. B., on the contrary, has a place for every member of the family to put his or her clothing and when putting away the clothing after wash days, keeps a sharp eye for outgrown and worn out garments, making over that which is good enough and tearing up and putting in rolls different grades of cloths, such as patches, poultice cloths, flannels and wash rags. She puts them where she can get them in the dark, or direct anyone else to get them. Such valuable papers as the P. F. are tied up in order, index outside for reference; common newspapers are put in neat piles so she can have them for use in pantry and kitchen at a moment's notice. Religious papers and magazines she passes along to her less fortunate neighbors. A few bottles she cleans and puts where they can be of use; others she sells to the druggist or sends clear away from the premises, and you may be quite sure that Mrs. B. feeds a great many odds and ends to the fire, for she believes that fire holds a place in cleansing and destroying that which, if thrown out to decay, will often cause sickness. Nice clothing, that has become old in style, is made over for the smaller ones, and if need be, trimmed with some remnant bought cheaply. This article is written in love and charity, and not in a fault-finding way, and if it shall only lighten the burdens of one dozen women I shall have the gratitude of that many, for when one goes into Mrs. A's home and then into Mrs. B's home, they find everything in favor of the latter.

A Farmer's Wife, Munnerly, Ga., writes: On returning from a short journey a few days ago, my husband remarked, in a heartfelt voice, "I do know you are the best woman in the world to travel with!" Now, my dear sisters, I need not tell you how such sweet praise sang in my heart, nor how I longed to have other wives merit just such thankfulness from their better (?) halves. So I am going to tell you what I did, hoping my bit of experience may help some inexperienced wife to keep her liege lord in good humor when on a journey. Knowing that the week of cheap rates meant a crowded train, I packed what few articles husband, baby, nurse and I would need for a three-days stay, in a good sized trunk. In a small hand-bag I put baby's night clothes, napkins, soap, towel, powder, rubber sheet, sacque, and our night clothes. Consequently when we reached the city at 8 P. M., in a downpour of rain, we stepped into a closed hack and were almost to our destination before some of our fellow travelers had found all of their numerous packages. We had no cause to worry about that trunk, as we were "fixed" for the night. Next morning Mr. C. went to the depot for it and it arrived in time for baby's bath and my adornment. Like most country people, we went to trade, and naturally Mr. C. expected to be loaded down with parcels on our return trip. When I walked out of the room with the same hand-bag and umbrella, nothing else, and we reached the depot thirty minutes ahead of the crowd, he made the remark I quoted above. All of our purchases, clothes, shoes, wraps, kitchen utensils, lamps, etc., were hobnobbing together in the most delightful manner in that trunk, and it was checked out of our sight and mind in the baggage car. Do, my dear sisters, try to travel without bundles, and as for a band-box—that is unpardonable.



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Topic No. 565, March 28.—*Have You Ever Tried Flat Culture with Cotton, and What is the Best Distance to Thin in the Rows and Between the Rows?*

Topic No. 566, April 4.—*How Do You Raise Turkeys, and What Breed is Best?*

Topic No. 567, April 11.—*What Varieties of Peaches Have You Found Most Profitable and How do You Manage Your Peach Orchard? Mention Best Two Varieties for Early, Mid-Season and Late.*

Topic No. 568, April 18.—*In Farming on Shares, What is Considered a Fair Rent in Your Section, and Should the Share Include the Poultry the Wife Raises?*

Topic No. 569, April 25.—*What is Your Experience with Hired White Labor in the South as Compared with That of the Negro?*

Topic No. 570, May 2.—*What is Your Experience in Stacking Hay Right from the Swath, and Have You Any Home-Made Derrick That Has Proved Economical of Time and Labor in the Stacking? Do You Use Fork, Horse Fork or Sling?*

Topic No. 571, May 9.—*Give us Your Experience with Alfalfa East of the Mississippi.*

Topic No. 572, May 16.—*Cherries for Market, Have You Found Them Profitable, and What are the Most Profitable Sorts?*

Topic No. 563.—What Varieties of Pears Have You Found Most Profitable, and How do You Cultivate and Pack for Market? Have Dwarf Trees Been Profitable?

H. J. Horner, Horner's, Va.—The Duchess on dwarf stock used to be the leading market pear here, and there are still some stunted orchards of them. They are a coarse pear, some of them not as good as a raw turnip, but their great size took the eye, and some years they sold well. The Kieffer is now the leader, and with me, when properly ripened in the house, is far better than the Duchess, and a handsomer fruit. I have no patience with feeble growing varieties, therefore a vigorous growing tree is my pleasure; Kieffer, Garber and Leconte all meet this requirement, and so far, none of them have blighted with me. The Bartlett is a fine pear and trees grow well, but I have never had one that did not blight to some extent; cutting well back and painting the limb below the cut with linseed oil, seems to check its spreading. Buffum is a fairly good summer pear and bears well. Seckel is, with me, the *Ne Plus Ultra* of them all, but I have never been able to grow a good tree of it. I have no use for dwarf trees of any variety, and will never plant another if I know it. The Kieffer is disposed to set too much fruit, and for best results and fine fruit needs early and vigorous thinning. All fruit at ends of branches should, I think, be removed, or limbs will break; and no two pears should touch anywhere. I market in crates 8x14x23½, which is the standard here, though some mills vary a little. I place each pear in its place so as to make crates hold all possible, and press down a little so fruit will remain tightly packed. I cultivate by plowing shallow and harrowing in spring, and surface cultivate shallow until about June to July, then generally sow cow peas and let it go. Sometimes cut peas for hay; sometimes let them lie. Sometimes surface dress with coarse litter from stable in fall, and in spring a light dressing of muriate of potash. While trees are small grow garden stuff and truck among them. Have found nothing like it for giving them a good send-off. For want of time to thin, I let some of my pears get quite large last year before thinning; they were nearly as hard as wood, but I shipped several crates of them, telling the commission man they were strictly for preserving. To my surprise they sold for twice the price received for my handsome house-ripened pears in the fall. A second shipment of them did as well. If they like them they can have my entire crop green next time, thereby relieving the trees. My horses ate many bushels of the thinnings, and seemed to thrive on them. Some of my pears weighed a pound and a half each.

J. F. Rose, S. Byron, N. Y.—Pear growing is done on rather a large scale in this section of Western New York, but not so many orchards of 500 to 2,000 trees are now being put out as in past years. Probably three-quarters of all pears put out have been dwarfs, but recently standards seem to find a little more favor. Years ago Duchesse de Angouleme was largely set and some growers with just the right soil and other conditions that this exacting pear demands, grew large crops and got great prices. The past two or three years Duchesse has been subject to all the pear ills, and when they were fairly well grown the grower has been unable to find a market for them at any decent price. Time was when the South took them, and when this section seemed to have enough the West appreciated them, but now no one seems to want them at a price poor apples are worth. About 15 years ago the big, bright-cheeked Clairgeau brought good prices, and Duchesse growers in some instances grafted the Duchesse to this variety. The scions made a wonderful growth, and the second or third year were loaded with fruit. Then it became apparent the two varieties did not take kindly, for however carefully the grafting was done, or how well the trees were cared for, the union of stock and graft soon divorced and then worked over Duchesse orchards were dead, or nearly so. Anjou, Bosc, Sheldon, Howell, Lawrence, Nelis and other varieties are all grown to an extent but now Bartletts are more set than all other kinds together. The reason is, they are annual and good bearers. The canning factory and cold storage people have taken them at good prices. Years ago the planting of Bartletts ceased on account of blight, but now this does not trouble at all. In marketing Bartletts the growers usually haul to the buyers in bushel crates, and the buyer grades and packs according to whether the fruit is going into cold storage and to be used for hand consumption, or to the canneries, where they are to be packed. When shipped to distant cities to be sold the standard apple barrel is commonly used, though some careful growers think they are well paid to pack in smaller packages, usually the half barrel. As regards growing pears, there is only one way, and that the cultivation one. Numberless orchards that were let go to grass are now under it and we do not know of a single successful orchard where the grass and sod plan has been followed. There seems to be no injury to the trees to use the land for planted crops, between the trees, if fertility enough is supplied for both crop and tree.

Silas A. Shaw, Auburn, Me.—I planted a dozen varieties of pears 25 years ago. Sheldon, Bartlett and Clapp's Favorite proved the most profitable. I top dress in the fall and plow and re-seed the ground with grass occasionally. The constant cultivation for part of each season might be better, but my plan has been profitable. I pick the fruit before fully ripe, and place them in a cool, airy and dark place for a few days, and sell them on the local market when just right to eat. Dwarf trees planted at same time did not thrive under this treatment; only one tree of half a dozen ever bore a crop. I have never seen a profitable dwarf pear orchard in this section.

T. C. Vliet, Whitehouse, N. J.—We have some trees of Kieffer, Bartlett, Sheldon, Beurre D'Anjou, Bosc, Golden and Lawrence, and they all do well. We had Kieffer and Lawrence till New Years day. We sell our surplus in a nearby village. The poorest pear we have is the Harvest, and they generally sell for the most money, as they come in very early. We ship in barrels or sell to a local dealer. The only cultivation we do is to keep the grass dug away from around the trunks of the trees. We have but one dwarf, the Duchesse, and it makes fine pears.

W. E. Embry, Dade City, Fa.—Leconte and Kieffer pears have been profitably grown here for market. Kept cultivated till five years old. Nearby markets get the fruit in barrels, but for Northern shipment we use crates, bushel and a half size. Dwarf trees have not been profitable. We have but little blight, and $1 net per bushel pays handsomely.

Thomas Patton, Mosgrove, Pa.—Pear orchards have been almost annihilated here. Blight is the cause. We find the Duchesse an all-around fruit on standard or dwarf, and ripens here in October and November. [Must be a cold climate or a late Duchesse. —ED.] Bartlett is a No. 1 fruit, bears young and ripens last of September. Bosc, Howell and Rutter do well. Kieffer, a winter pear, is a splendid kind, and some claim them to be blight-proof, but they blighted with us. We have kept them in the cellar until last of December, when they are sure to command a good price. Dwarf pears are not as long lived as the standards, but they produce fine fruit. Duchesse has been the most successful variety here. We have known pear trees that had no cultivation to bear fine fruit, but they should be cultivated, and the fruit thinned when needed. As we have a home market for all produced, they are marketed in baskets. Dwarfs have not been profitable with us.

B. C. Grant, Corunna, Mich.—The standard pear is better than the dwarf, and such as Bartlett, Clapp's Favorite, Duchesse, Flemish Beauty and Howell should be grown more than they are. A clay loam suits them best, and good care will bring them into bearing as soon as apples. I had pears bear fruit the second year after they were planted. Had the best success by keeping the orchard in sod after the third or fourth year. One of my neighbors planted a pear orchard and plowed it at least twice a year. He got but few pears and now his trees are nearly all dead. For marketing we use the one-third bushel box. Barrels may be more economical when they are grown on a large scale.

H. R. Brockett, Bristol, Conn.—Bartlett and Kieffer are the best pears for us. Trees should be set on dry soil and not too rich, and then fertilize them with chip dirt and wood ashes. After they get into bearing top dress them annually. The larger part of our crop we market near by, in half-bushel baskets. Dwarf pears have not been profitable. If a Connecticut farmer cannot wait for the standard trees to bear he had better raise something else.

F. Cozzens, Appleton, N. Y., R. D. 30.—I prefer Bartlett. Have 120 trees set 18 feet apart each way. They were set 17 years ago, and for the first ten years did not produce much fruit, but since then have born regularly, but never a full crop, and it is better for the trees and the fruit that they have not. The pear psylla is our worst enemy, and hurt the crop badly four years ago, but we went at them with kerosene emulsion, and have not been bothered since. The chicadee is a great help, as it stays in the orchard all winter. I plow as soon in the spring as the ground is fit to work, and keep well cultivated till August, when clover or rye is sown to plow under in the spring. Have a fine stand of clover this winter. We have usually barrelled them and sold to dealers, but for a few years past have sold them to canners, putting pears in crates as fast as gathered and hauling direct to the cars. The past season we sold at one and a half cents per pound and received $140. Dwarfs have not been profitable.

D. W. St[illegible], Jackson, O.—Kieffer is the most profitable pear. Our Bartletts and Clapp's Favorite blighted and died before they came into full bearing. Kieffer trees 16 years old have shown no signs of blight. They are vigorous growers, and bear every year, choice and luscious. We keep grass away from around the young trees and mulch with coarse stable manure. Our older trees are in sod. We sort in two grades and pack in half-bushel baskets, and sell to customers from our own wagon. We are not successful with dwarf trees.

R. H. T. Wylde, Nannet, N. Y.—I set two pear orchards twenty-five years ago with Bartlett, Flemish Beauty, Howell, Sheldon, Belle Lucrative, Onondaga, Clairgeau, Anjou, Vicar, Buffum and Clapp's Favorite. Where the trees have died they have been replaced with Bartletts. Flemish Beauty yielded badly, and cracked and were dug out. Vicars blighted. The most profitable sorts have been the Bartlett, Anjou, Clapp's Favorite, Buffum and Sheldon. For the first ten years I grew currants between the trees, and plowed every year. Since then have kept them in grass. I use the manure and litter from the hen house scattered freely around the trees. Formerly shipped to New York in crates, but now find double-headed barrels satisfactory. My trees are standards. Have tried the dwarfs in the garden, but prefer standards for profit. Seckels are very wormy here. Little spraying is done.

C. L. Moss, Hammonton, N. J.—Bartlett is my favorite pear. They are the standard and will remain so for some time to come. New varieties come out and disappear. I cultivate my pear orchard as I do other crops, and sow a crop of grain or clover in the fall to plow under in spring, and then cultivate and clean around each tree and sow to cow peas, which are plowed under in the fall. I sprinkle a shovelful of manure around the trunk of each tree. [Where it does about as much good as a bag of oats hung out of reach of a horse. The feeding roots of a tree are not around the trunk, but out where the limbs drip.—ED.] Prune and cut back a little each spring and spray twice with Bordeaux mixture. I ship in five-eighths baskets, double pear boxes and in the regular pear barrel. Sort always in two grades and if a little ripe I wrap each pear in tissue paper, which has always paid. I whitewash the trunks of my trees once or twice. Dwarfs are nice for a garden or a play house farm.

Sarah A. Pleas, Dunreith, Ind.—Kieffer is by far the most profitable pear, selling in our cities by the carload and shoveled out like potatoes. We pick in bushel baskets and house in same. If wrapped and placed in cold storage they will keep all winter. We ship in barrels, covered bushel baskets and in half bushel baskets covered with netting. Plant in well prepared soil and keep the long branches shortened one-third or one-half, and the tops open to prevent overbearing. Keep cultivated for a few years and then leave in grass. No spraying needed thus far. They bear so young that there is no excuse for dwarfs. In fall of '61 we planted dwarf pears, setting them deep to encourage roots above the graft. They bore at once and made the finest pears I have ever seen. Out of a row of 12, 5 Fall Butter, 2 Louisa and 1 Winter Nelis are still healthy and bearing. Loss has been from blight. We spray for scab.

J. E. Fischler, Spicewood, Pa.—I have found the Bartlett and Clapp's Favorite the most profitable. Have one orchard that has been sowed to peas and oats for the last three or four years. When the peas turn and get hard I turn the hogs in and let them harvest the crop. What they do not eat serves as a mulch. Results have been satisfactory. Have another orchard that has been in grass for a number of years, and has produced few pears, and of poor quality. Have a home market and pack in bushel crates. If I were shipping would pack in half-bushel crates and wrap in paper. Never made any money with dwarf trees.

A. J. Legg, Albion, W. Va.—I find the Kieffer the best pear here. It is the surest bearer and the most healthy tree. We grow pears for the local market only and hence do not pack them. Dwarf pear trees of all varieties have been a failure here.

Mrs. T. A. Shuff, New Berlin, Ill.—Here we have found the Kieffer pear the most productive, and reliable, and being salable, is profitable. With ordinary care the trees make a thrifty growth and the fruit is large and well formed. Pick when the stem parts readily from the tree, which will often be after the first frost. They may be marketed like apples as they are not easily bruised. To make sure of a fancy price wrap each fine specimen in thin paper before marketing. In this way they will keep in a cool, dry place until Christmas.

C. C. Beals, New London, Ind.—The Kieffer is the most profitable pear. The tree is the nearest blight-proof of any. It is inclined to set too much fruit and needs thinning. For the first few years I cultivate well with some crop like potatoes, and as they come into bearing the land is seeded to grass to prevent too rapid a growth and a tendency to blight. The affected twigs should be removed at once and the trees headed back each year to form a low spreading top. Fruit is picked as soon as the stem lets go when the fruit is raised horizontally, and is taken to a cool, dark place to ripen. They should have a blanket over them to keep out the light, and should be gone over weekly and the ripe ones removed for sale. We have planted dwarf trees but they seem more tender and are easily broken off at the union with the stock. They blight more, and it would take a lifetime for a tree to get large enough to bear a bushel of pears, if it lived that long. It does not pay to plant dwarf pear trees.

M. H. Lancaster, Bunker Hill, Ill.—The Kieffer is by far the most profitable here. We have several varieties in our orchard, some of which are dwarfs, and these blight worse than the Kieffer, and are not so productive. Plant about 16x20 feet and crop with corn or some hoed crop for two or three years. After that cultivate only in the summer months. We gather them about the middle of October, in two grades, and pack in barrels which are ventilated by cutting small slits in the sides of the barrel. The Duchesse, Bartlett and Howell are too tender to ship great distances. [And yet they come in perfect order from California packed neatly in light, shallow boxes, each pear wrapped in paper. We are now, the last of February, getting fine Easter Buerre pears from California. It is the careful handling and light package that tells, and not distance.—ED.]

J. W. Page, North East, Pa.—I find the Bartlett, Flemish Beauty, Duchesse, Anjou and Seckel the most profitable. We prune every winter, keeping the young growth thinned and cut back, and the land properly cultivated. We have severe west winds and have to keep the trees pruned to make them well balanced. Living near a city market, I handle all the fruit in diamond splint baskets holding one and a half pecks, costing 30 cents a dozen. The choice varieties I put in 3-pound and 8-pound baskets. In shipping to distant markets I find it best to wrap each pear in paper and pack in crates like oranges. We have discontinued planting dwarf trees. They mature slowly and the fruit is less perfect than on standard trees. We spray in April with Bordeaux mixture, and later add Paris green. It pays well to spray thoroughly.

W. R. Van Lear, Cross Keys, Va.—I have made four plantings of pear trees and have 100 more to plant this spring. I plant in strong clay, well drained. I planted two Kieffers in 1885. They were not pruned nor cultivated, but have borne fine crops every year since they were seven years old. Planted more trees in '94, commencing with summer varieties, to ripen in succession. Manured the ground and cultivated vegetables between the trees. Trees did well for a few years and bloomed and set fruit, and then the blight struck them and all were lost, of twenty planted, except the two Kieffers, which did not blight. Four years ago I planted 15 Kieffers in sod and kept them growing by manuring freely and keeping the grass and weeds mown. They bore fine fruit last summer. Two years ago I planted 50 Kieffers in sod ground, took off a light crop of hay the next summer, and last summer raised a crop of corn on it. The ground was seeded to barley for the chickens to forage over. I expect to work around the trees till they are large enough to bear a bushel of pears, and will then treat the orchard as a lawn, and fertilize it for the best results.

W. S. Sanders, Danielsville, Ga.—Our soil is sandy loam with red clay subsoil. Leconte and Kieffer pears have both done well. Lecontes have not missed a crop since they began to bear 15 years ago. Kieffers have not been bearing so long, and have a very full crop on alternate years and not so many the next. The Lecontes we use for canning, being much better than peaches, for preserves and for eating, and sell the surplus to the local trade at $1 a bushel. We gather the Kieffers just before frost and put them in a dark room on woolen blankets, where they remain till mellow, when we eat them. I am sure no better fruit can be found anywhere. Dwarf pears have failed here.

SUMMARY.

The experience of our correspondents is similar to that of pear growers in every part of the country. Pears worked on the quince will do for the restricted areas and high culture of Europe. But here, with our free and easy way of treating everything, they will not do. Then, so many varieties are peculiarly subject to fire-blight that they have gradually gone out of cultivation. Bartletts are now seldom seen in the South because of the blight. Seckel, in our experience, blights less than most of the older sorts, Anjou next. Superfine, splendid pear, but a shy bearer, is also nearly blight-proof. The introduction of the Oriental varieties, crosses of the Chinese sand pear, has revolutionized pear growing in this country, giving us varieties that bear profusely when quite young, and at least one with very good fruit. Leconte ripens in summer, grows thriftily and bears profusely, fruit that in our opinion is about as near worthless for any purpose to which a pear can be applied, as any we ever saw. We have tried to eat them out of hand, have tried them canned and in every other way, and have yet to see the first good quality in the Leconte. With the Garber it is even worse, if possible. The Kieffer is a different article. There is also a great difference in Kieffers grown in different climates. The Kieffer grown south of Virginia is a vastly better pear than the Kieffer grown north. It not only grows to a larger size, but it attains a quality in the South that it never attains in the North. As grown South, the Kieffer is a far better pear than the big, coarse Duchesse. Ripened in the dark, between woolen blankets, it attains a waxen yellow that is very attractive, and in a good, dark cellar it can easily be kept till mid-winter. Some writers North have recently compared the Kieffer among pears to the Ben Davis among apples. But there is no proper comparison, because the Kieffer, while possessing similar characteristics in early, profuse and regular bearing to the Ben Davis, has the further quality of being, when well grown and ripened, a fine fruit, which the Ben Davis never is. The canning factories are taking the Kieffer at fair prices and putting Bartlett labels on the cans, and thousands eat Kieffers and think they are eating Bartletts, and like them, and then turn about and say the Kieffer is worthless.

Our Barter Column.

For Sale or trade for land. A 16 H. P. threshing rig and clover huller. C. C. THOMAS, Spiceland, Md.

Wanted to Exchange full-blood Scotch Collie pups or Coons for full-blood male St. Bernard or cash. F. S. WILLIAMS, Gelatt, Pa.

Will Exchange strictly first-class hand feed-cutter for barred-rock chickens or Poland-China boar. Write, H. E. TWEED, Ripley, Ohio.

For Sale. Angora Buck, year old, and young Belgian Hares. Will exchange for Lincoln sheep or collie. JOHN RUSHTON, Attleboro Falls, Mass.

We desire to purchase pure bred Chester White swine and a Short-horn bull calf of a milking strain. SUMMERS & PEYTON, Plymouth, West Va.

Holstein. Paul De Kol stock. One bull, two years old; one 9 months old; one heifer 9 months old; for sale or exchange. GEO. W. LAKIN, Hilliard, Ohio.

80 Acres for sale, Lake Co., Cal. Adapted to alfalfa, grain, etc. Fine orchard; buildings, all fenced; 2 miles from town. A. O. WHEELER. Upper Lake, Cal.

Good Violin, strings, bow, box, complete outfit. Would like to exchange for a good 4x5 camera or offer. H. N. POWELL, De Kalb Junction, St. Lawrence Co., N. Y.

320 Acres For Sale. 9-room house, orchard. Well fenced. 250 in cultivation, balance in pasture. 2½ miles from railroad town. R. W. SIMPSON, Liberty, Kan.

Wanted. Good farm hand. Must be sober, industrious, willing. Good wages for good man. Address W. T. BARRACKMAN, R. F. D. 2, Decatur, Macon Co., Illinois.

142 Acres For Sale. Well fenced; 2 houses; orchards; 90 in cultivation, balance in pasture, 2 miles from R. R. station. Price $6500. GEO. W. DUGGER, Hettick, Ill.

For Sale. Cleveland Bay Stallion; fine horse; good breeder; easily handled; a showy horse that is sure to please. Cheap for cash or bankable note. Box 56, Golden Gate, Ill.

For Sale. Ten acre fruit farm (all kinds) in village; high state of cultivation; everything handy; good buildings; price and terms reasonable. Address, Owner, Lock box 78, Chadbourn, N. C.

Strawberry Plants for sale or exchange. Michels, Tennessee Prolific, Brandywine and Gandy. Will exchange for cow peas, Hallock Weeder, Incubator or Berkshire Pig. W. A HARGADINE, Viola, Del.

Wanted on gentleman's farm a strictly sober man. Wages $20.00 and board; also married couple, wife to do housework; position permanent. Address, Box 162, Ossining, West Chester Co., N. Y.

Wanted. A first class farm hand; must be well recommended; must be able to do any farm work; good with horses. A good Christian man preferred; must be 18 years old or older. Direct to Peter Huffman, Elkhart, Ind.

Sale or Exchange. Pure Bred Buff Plymouth Rock and Buff Leghorn eggs, 75 cents per 15 eggs. Exchange for fancy work, dainty articles for ladies use, etc. Write, enclosing stamp, describe article and state number of eggs desired. 50 varieties fine chrysanthemum plants later, 35 cents dozen. MISS ROXIE SHEETS, Lexington, N. C.

Want a good, all around, practical, reliable man for general farm work. Would pay $25.00 per month and board. Would furnish everything and let farm out on shares to right party. Man with family, including sons who would help preferred. One of the best markets in the country. Must give good reference. J. L. MORAN, Hazel Hurst, Pa.

For Sale. Only milk route in thriving town of 3000; sales for last year $2920; complete bottling dairy outfit, modern wagon; farm of 90 acres next to city limits; all farming implements; 20 cows; thoroughbred Holstein bull; 4 horses; new power wind mill; ice up for summer's use; 10 acres hardwood timber; young bearing apple orchard; building new. Price $6000. W. H. BOARDMAN, Vassar, Mich.

Wanted, April 1st—married Protestant man as working assistant foreman on truck farm, competent to assume duties of foreman when business warrants it; willing to board help; must be respectable, good character and habits; 7-room house. Write fully former experience, nationality, age, copy of references, size of family, wages expected. No one afraid of work need apply. B. P. M., Box 34, South Bound Brook, N. J.

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40 will buy	200 Shares	par 200
20 will buy	100 Shares	par 100

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POINTS AND FACTS.

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SHORT CUTS.

BY PRACTICAL FARMER SUBS.

All other trades have resorted to "Short Cuts." To be successful farmers must resort to them, too. In this column we will publish all actual labor saving short cuts made by the farmer on the farm and the housewife in the home. Write and tell us of any labor saving tool you have made, of any method of management or manner of using implements to save time, labor and money, or increase their efficiency. Even the smallest things may be useful and valuable. Hints and helps in the household are always welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Write on postal cards and make articles short. All errors will be corrected by the editor. Address all communications under this head to T. Greiner, La Salle, N. Y.

Box for Unsightly Slop Buckets.—I procured a box 18 inches square, 12 inches deep, and put legs on it 10 inches long, and also fitted it with a hinged lid and painted it the same color as the floor. This holds the slop bucket and also a small bucket into which we put scraps to feed the chickens. This is very convenient, as you scarcely have to stoop to pour water in the bucket, and you never spill slop on the floor. W. H. HAYNES.
Ames, Ill.

Gathering Peas.—We make a sack to pick stock peas in by folding top of corn sack down over a ring made from No. 11 fencing wire until sack is one-half original length, with ring in top, securely sewed there to hold sack open. A string is tied to one side of ring and then around boy's waist. Another string is tied in front to go over the boy's head. In this way a boy can pick with both hands. DOUGLAS R. COPPEDGE.
Dover, Tenn.

Cleaning off the Garden.—In raking off the garden the other day my rake caught in a cabbage stalk and it pulled up so easy that I tried it on the tomato and bean vines, and they all came out so nicely, with no backaches and in so much less time than pulling them up by hand, as I had done before. I considered it a good short cut for that afternoon. MRS. D. M. SWEENY.
Freeland, Md.

Mending Knives.—When the handles of steel knives become loose or come off, they can easily be mended with resin. Pour a little powdered resin into the handle of the knife, then heat the part of the knife which fits into the handle until it is red-hot, and then thrust it quickly into the handle, and when it is cool the handle will be found to be firmly fixed in. L. E. KERR.
Hurricane, Ark.

Tying a Cow.—A better way than tying with rope around the horns is to remove the horns and tie the cows with a chain by the neck. The chains should have a snap hook and a swivel. I save the odd pieces of chain and splice them with repair links or baling wire. I remove the horns by applying caustic potash when the calf is not more than eight days old. J. W. LATTY.
Welch, Ky.

Keeping Chickens Out of Garden.—Last spring I had 36 Brown Leghorn chickens hatched the last of April. Not wishing to have them injure the newly planted garden, I kept them in two hen houses, each 10x12 feet, with earth floors and open south windows made secure with wire netting. They were fed with meal and wheat middlings made into dough, and supplied with plenty of clean water. Pounded shells, gravel, chopped clover and scrap meat made fine, were given daily. The house floors were covered with fresh earth each week. When two months old, they were allowed to run, and being strong and healthy, I raised them all. In October the pullets began to lay, and have continued through the winter.

A Cranberry Bed two yards wide and ten yards long, in my garden, furnishes a good supply of excellent fruit with very little trouble. Some vines which grew on a dry bank were taken up in spring and planted in rows, which in time became a matted bed. It has been kept free from weeds and grass, and has had an annual dressing of wood ashes. The average yield is about two bushels. Cranberries intended for home use are put in water and placed in the cellar. They keep well and are cooked when needed. Being on high land, the cranberries are not injured by early frosts, and the picking is done in October. MRS. E. N. MOORE.
Uncasville, Conn.

Saving Seed Corn. — After gathering corn get a large box, or barrel, put it in crib; then while feeding through the winter, select the best ears, that are well matured with good grain, drop them in barrel and by planting time you will have a good supply of the very best corn for planting. The result with me is a good stand and a splendid yield. A. BRICE.
Tiro, Texas.

Household Hints.—An inner-lining of enamel or table oilcloth put in your little girl's coats prevents cold from penetrating to the wearer. I have learned that it is a saving of time when setting buckwheat batter with yeast, to make enough at once for several days. Keep it cool, and each night take out what is needed for breakfast and put in warm place to rise. When putting in saleratus also add a pinch of salt. This can be decided by the taste, but makes the cakes much easier to digest. When making bread in cold weather it is well to leave enough dough for a pan of biscuits. If it freezes it will do no harm but should be thawed gradually. Mix in shortening when it has raised; put in tins and when light, bake. They are very white, and it is often a very convenient way of making warm bread. ALICIA E. STORM.
Plessis, N. Y.

Short Cuts with Harness.—To unhitch the team in one minute, unhitch and put up three of the tugs, step over the tongue, unhitch the other, loosen hitch strap, do up the line, unsnap the lines on that horse, then breast strap; then breast strap and lines of the other; then loosen hitch strap and do up other line, and the job is done. In hanging up the harness, put the hames on the hook first, the hip straps last. This makes it come off in just the right shape to throw on the horse. The hames coming off the hook last, are still in the hands ready to put in place. Have a separate hook for the bridles, then you will not need to take them down to get the rest of the harness. It is an agreeable rest to the horses' backs if you take off the back saddle and belly-band from the harness for a while, and let the hip straps support the tugs. Fasten the back strap to the upper hame strap. If you have britchings, snap them to the belly-band buckle, in the tugs, and take off the crupper. This willl leave only three buckles to unfasten in taking off the harness—the throat-latch, the hame strap and collar. This is quckly done. C. G. HOWELL.
Earleyville, Tenn.

Keeping Warm While Riding.—Farmers' wives and children often suffer with the cold when riding a long distance in the winter time. The best thing I ever tried is a tin (gallon) syrup can filled with boiling water and the cover screwed on tight. It can be used for either hands or feet, and costs but eight or ten cents. An old one can be used if one has an empty one that has been used for syrup. The water will keep warm for several hours, and can be renewed or kept warm on a friend's stove for the ride home. These empty cans are also very handy to keep machine oil in. A quantity can be bought at once.
E. Scott, N. Y. MRS. J. C. WHEELER.

Creamery.—Take a coal-oil tin; cut out the top, punch a small hole with awl or sharp nail, two inches from the bottom and two inches from the right-hand side; widen this hole out to ⅜ inch in diameter. Take a piece of wood 2x2 inches, 1 or 1½ inches thick, make a hole in the centre ⅜ inch in diameter. Take a piece of soft leather, make a washer out of it with a ⅜-inch hole in it; place the wood on inside of tin, hole to hole, place leather washer on outside; drive eight carpet tacks through leather and tin, into wood. Make a spigot of wood. Put handle across top. Take a piece of muslin for cover. Take 36 inches of elastic, sew ends together, put around muslin to hold it in place. J. P. REID.
Bluff, Wash.

OSTRICH LOGIC.

"When I can't *see* danger there is no danger." That's the logic of the ostrich which hides its head and exposes its body to the hunter. There are not a few people who seem to have gone to the ostrich to learn logic. The most dangerous enemies of humanity are the enemies which can't be seen, the disease breeding microbes which infect the blood. It is harder to get the microbe out of the blood than to keep it out, but Dr. Pierce's Golden Medical Discovery does both, by purifying the blood and then keeping it pure.

If there are eruptions on the skin, boils, pimples, sores or other signs of impure blood, use Doctor Pierce's Golden Medical Discovery, which will purify the blood and cure the eruptions which come from it.

"My blood was all out of order, and I had to go to the doctor," writes Mrs. James R. Moss, New London, Stanly Co., N.C. "He gave me medicine which helped me for a short time. In the winter of 1895 I got worse than I had ever been. My tonsils were enlarged and my neck swollen all out of shape; my throat was sore and I could not cure it. My husband went for the doctor, but he gave me no encouragement. He helped me a little, but it did not last long. He attended me for twelve months, when I heard of a lady whose condition was like mine, who was taking your medicine and was getting well. So I secured some of the medicine and began taking it. In one week I was able to do my cooking. When I began taking the medisine I could sit up only a few minutes at a time, and I could rest of sleep only a little while at a time. My throat was so sore at times I could not even swallow sweet milk, and my tonsils were full of little eating sores. My left side was swollen out of shape and I could hardly get my breath. The doctor said I would not get well, but three bottles of Dr. Pierce's Golden Medical Discovery, three bottles of his 'Pellets,' three bottles of Dr. Sage's Catarrh Remedy and the use of salt water did the work and cured me."

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We have obtained the Court's decree against two additional manufacturers who have been infringing our patent. The rule of law is: "The maker, seller or user of an infringing device are all liable in damages to the owner of the patent infringed." The Janesville Machine Co. and the Keystone Farm Machine Co. are the only firms licensed to use a *flat tooth* covered by our patent, and we finally warn sellers and users of all other makes. So admirably have the 60,000 "Hallock" Weeders done the work for which they were designed, that one maker after another sought to copy it. However, by the various Courts' decisions, these makers are compelled to abandon the manufacture of a Weeder having flat teeth, and they are now experimenting with other shapes; but it is the flat tooth that made the "Hallock" Weeder famous, and in view of the manner in which our patent has been sustained, it is dangerous to use an infringing tooth. Write for descriptive circulars and prices.
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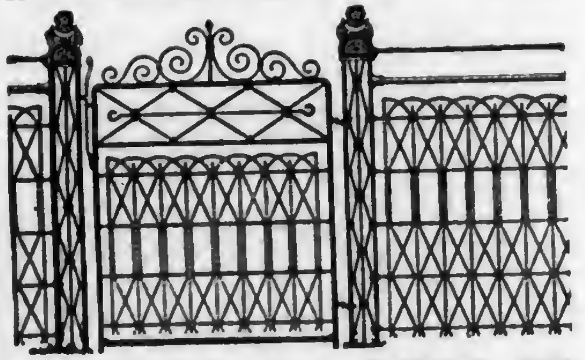

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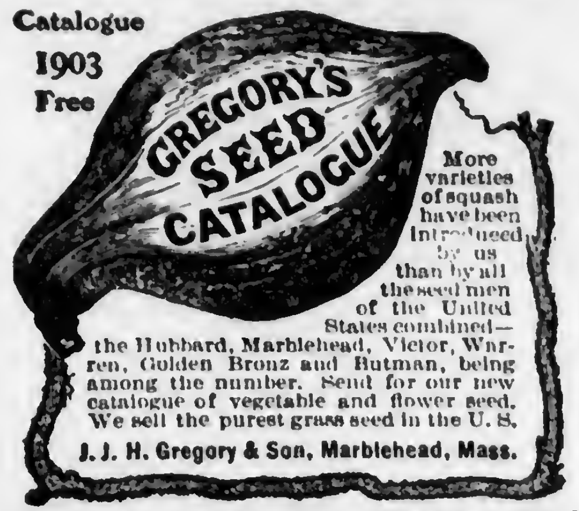

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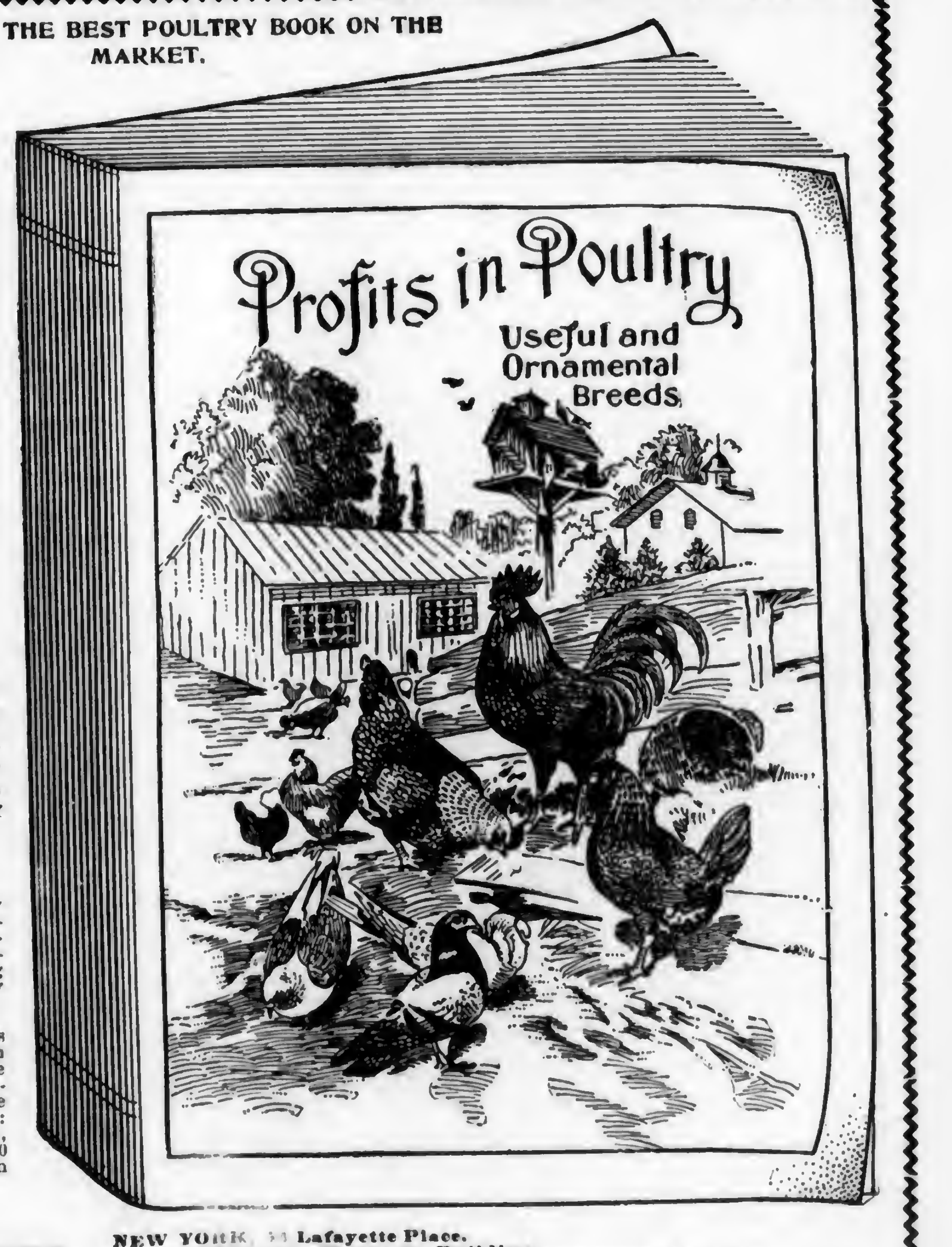

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Marking and Planting the Garden.—When the garden is ready to be marked off for the planting, use a small rope line of the required length. We fasten ends of line to the iron stakes used in planting corn with the check rower, and in this way the rows can be made "straight as a line." Drop a radish seed about every five or six inches in the rows where beets and parsnips have been planted, tend the radishes and the weeds will not get the start of the beets and parsnips, and the radishes will be gone before they do them any harm. Put one grain of sweet corn every 18 inches in a row of peas that require some support. This saves trouble and will give early roasting ears for the table. Mrs. G. W. McRae.
La Belle, Mo.

Be Kind to Your Hogs.—Many farmers make the mistake of not being kind to their hogs. Have seen men that were kind to all their other stock but misused their hogs. Now hogs deserve as good treatment as other animals. They should have a clean, dry place to sleep in, and a clean place to eat in. The brood sows should be so tame that at farrowing time you can get into the pen with them. Give the boar a lot by himself. Don't throw his feed over the fence, but go into his yard when you feed him, call him by name and never use a club on him. If he becomes unruly, have a small whip to use. He will soon get used to you and never give any trouble. Although I have never had a hog of any kind that I could not go up to and catch hold of, have always found my boars easiest to drive and handle. W. P. Doolittle.
Palmyra, Mo.

Killing Fruit Trees with Ashes.—I have made the mistake of throwing unleached wood ashes around tender fruit trees, and have thus killed several valuable plum and cherry trees, also grape vines. I have never noticed any bad results when the same kind of ashes were thrown around apple, pear and peach trees. F. E. Schriver.
Marseilles, O.

Receptacle for Recipes. — Of course every one has recipe books, but sometimes a friend gives us a recipe written with her own hand, which we wish to keep, and here is the prettiest, daintiest little thing in the world to keep these and many others in: Get, at any book store, envelopes 7 or 8 inches long and 3 inches wide, white or brown as you fancy. Take a piece of white butchers linen and cut a piece like the cover for a book, a trifle larger than the envelopes. Mark the edges in scallops by using a thimble; unless you have a stamping outfit, which is easier. Embroider in any desired color of wash silks, embroidering the word "Recipes" gracefully and carelessly across the front. Have some six or eight envelopes, and upon one write the word "Soup," on another write "Cake," and so on, to indicate the kind of recipes which each envelope contains. Tie in about two places with ribbons to match silk. This makes a very pretty gift to a friend who is domestic, with some of your best tested and true recipes carefully written and placed in the envelopes. Electa Trueman.
Flemington, N. J.

Home-Made Brooder.—I would say to those raising chickens by hand that a home-made brooder will raise them just as well as any and the cost is very light. A common lamp will give heat enough for 100 chicks. If taught to come up by striking with a spoon or something on a dish, and then fed, they will come at any time.

Winter Hints.—To those troubled with cold feet at night I would say if they will fill a fruit jar with boiling water, sealing as they would fruit, and wrap in several thicknesses of paper, it will keep warm till morning. If when traveling one will put hot coffee or tea in a jar, wrap in several thicknesses of paper and put under the blanket, it will keep warm enough to drink, besides keeping the feet warm. I have carried seed sweet potatoes 32 miles in freezing weather, wrapped in paper, and they were not chilled. I wonder how many know that a newspaper put around the body under coat or cape, will go far toward keeping one warm. Fasten down at bottom by belt or waistband. Mrs. J. D. Fiske.
Tuckerton, N. J.

Cleaning Kettles. — I have sometimes had a porcelain-lined kettle left longer on the stove than I thought, and coming back have found the contents burned black on the kettle. First thought was, "My kettle is ruined." But taking some hard-wood ashes I put them in the kettle, in water, and let stand for a while on back of stove, when the black will scrape off easily and my kettle is as good as before. When blacking stoves put your hand in thick paper bag to keep your nails from getting black. Mrs. Godfrey Gilbert.
Corinna, Me.

From Weeds to Grass.—An old pasture that had nearly run out and was covered with weeds and moss, was treated as follows: A few barrels of salt and wood ashes were mixed and applied to the land at the rate of about two barrels to the acre, covering about one-third of the lot. The result was surprising. Before fall the moss had almost disappeared and the weeds were going fast, while the grass came in thick, assuming a dark green color and making fine pasturage. The rest of the lot remained as unproductive as before, but it was salted the following year with like results.

Drying Pumpkin.—Anyone may have pumpkin pies nearly all the year at no cost to speak of. I select nice, sound pumpkins; the small sugar pumpkin is a good one. Pare and slice into small pieces and string the pieces on a string as you would apples for drying. Hang beside the stove till dry and put away until wanted for use. John Jackson.
Songo Lock, Me.

The Runt.—I have many times heard the saying among the old farmers that the runt pig of the litter would make the largest hog at last. I have experimented a little on that line, and beg to be excused from a repetition. The man I bought of had four and I had none, as I do not keep a brood sow. Two of his pigs, which he wished to sell together, were the best and the poorest, the other two being "betwixt and between." I chose the first two, and guess I missed it, for that runt is a runt still. After three months feeding it will not weigh half as much as the other. They have been fed together. Would like to hear the experience of others on this subject. S. A. Dyke.
Mason, W. Va.

Poultry on the Farm.—We made a success with poultry on the farm in a small way. Wife keeps from 30 to 50 hens the year around, and they have the run of the place except the garden. All above the required number of hens and roosters selected to keep, are marketed and the eggs are sold to buy groceries and other things. At one time wife bought and paid for an extension table with the proceeds from a coop of young chickens, and again she paid for a $10 overcoat, and many other things, the sum total of which makes us feel that poultry raising is not such a pottering business as Prof. Massey might think, and much more profitable than setting lettuce plants in cold frames. We use common poultry sense and do not spend all our time with them. Of course we water and feed regularly in winter, parched corn at night and wheat, rye or corn mornings. Also sow a strip of wheat or rye near the yard for green picking. We raise very early and very late pullets and get eggs all winter. Their house is a rude affair made of logs, the cracks stripped with planks. We also raise ducks and geese, and think all these add materially to the results of mixed farming. W. T. Wright.
Chambersburg, Ind.

Those Useless Trees.—On many farms there are useless trees along the fences and scattered over the fields, and if these were all cut down it would improve the looks of the farm, and something of value could be raised on these waste places. The right time to do this is when the trees first start to grow, but this has often been neglected and there are many scrubby trees with tops almost as large as a dwelling house. The best way to fix these large trees is to cut close to the ground, cut the entire tree up and pile it on the stump, and burn it. This will tame the ground and a crop can be raised where nothing of value grew before. Where a fence has grown up to trees, the best plan is to move the fence away, chop the trees and burn them, farm the ground and get it seeded down as soon as possible, then cut the sprouts often and close until they are killed. Merl Levier.
Fisher, Pa.

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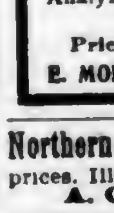
Nitrate, Sulphate and Muriate of Potash, Acid Phosphate, etc. Write us for prices
GENUINE PERUVIAN GUANO
Analyzing 4 to 5 p.c. Ammonia, 18 to 20 p.c. Phosphoric Acid, 4 p.c. Potash.
Price, $27.50 per ton, F.O.B., New York
E. MORTIMER & CO., 17 William St., New York

Northern Grown Seed Potatoes. Pure, sound and vigorous at low prices. Illustrated catalog. 60 popular varieties. Free. A. C. ALDRIDGE, Fishers, N. Y.



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The "PHILADELPHIA."
The only Perfect continuous open front Silo made. See Open Top Patent Roof. Ask for catalogue.
E. F. SCHLICHTER, 331 Vine St., Philadelphia, Pa.
Also made in the West by the DUPLEX MFG. CO., South Superior, Wisconsin.

10 DAYS FREE TRIAL
HANDIEST THING ON THE FARM. 4 machines in one. Automatic sickle grinder. Tool grinder. Polisher for rusty tools and Saw gummer. PEDAL SICKLE & TOOL GRINDER —high speed—4,000 revolutions a minute. Geared like a bicycle. Easy running. Grinding wheels made of the New Artificial Diamond "Carborundum" ... abrasive, cuts ... faster than sandstone ... Draw Temper. Small ... and booklet telling all ... sent free. REMARKABLE ... TO FARMERS — Grinder ... 10 days free trial without deposit or advance payment. If it suits send us $6.50, if not, return it at our expense. Write for it to-night.
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$21.95 FARMERS' HANDY WAGON 4-inch Tire Steel Wheels Empire Manufacturing Co., Quincy, Ill.

WELL DRILLING Machines
Over 70 sizes and styles, for drilling either deep or shallow wells in any kind of soil or rock. Mounted on wheels or on sills. With engines or horse powers. Strong, simple and durable. Any mechanic can operate them easily. Send for catalog.
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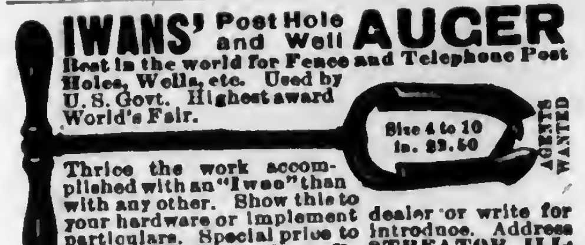

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Best in the world for Fence and Telephone Post Holes, Wells, etc. Used by U. S. Govt. Highest award World's Fair.
Size 4 to 10 in. $2.50
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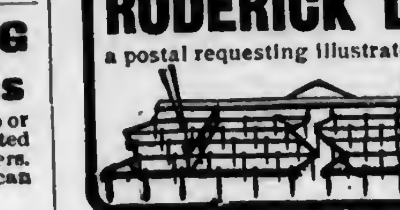
Thrice the work accomplished with an "Iwan" than with any other. Show this to your hardware or implement dealer or write for particulars. Special price to introduce. Address IWAN BROS., Box P, STREATOR, ILL.

SILOS FROM PUGET SOUND TO YOUR FARM. We shall ship to your town, Silo Stock of Oregon Pine which owing to length must be handled in car loads, giving to people contemplating the erection of a Silo in 1903 the benefit of through car load freight rates in a delivered price on Silo complete. Staves One Piece the Depth of Silo. Write us, giving size best adapted to your wants, and have booklet, "Silos and Silage," mailed you. It shows how to build, how to fill. WILLIAMS MFG. CO., Kalamazoo, Mich.



RODERICK LEAN Implements Famous for good work. A cent spent for a postal requesting illustrated catalogue will save you dollars in the purchase of Spike-tooth, Spring-tooth and Disc Harrows or Land Rollers. Don't buy until you learn *why* the RODERICK LEAN are superior to any other.
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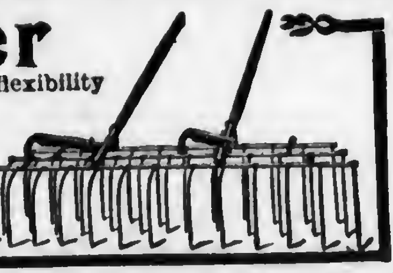

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in all soils, under all conditions. The all important feature of flexibility of teeth is near perfection in the YORK IMPROVED.
Made of square spring steel with round points, and set staggered in strong but flexible angle steel frame. Wide clearance, no clogging, teeth too strong to break. Multiplies producing qualities of soil and does not whip or bruise growing plant. Adjustable handles and shafts. Write for free descriptive circular.
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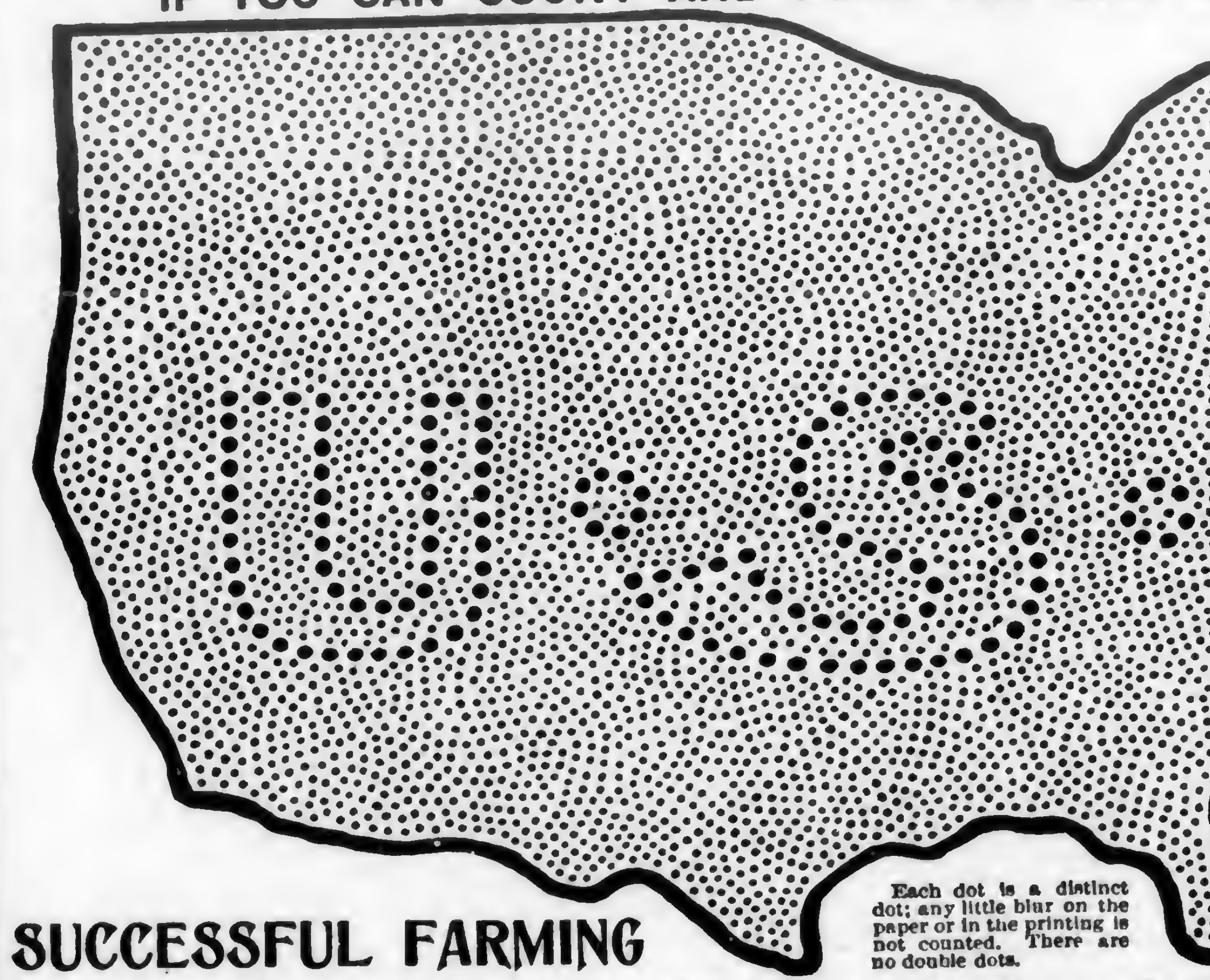
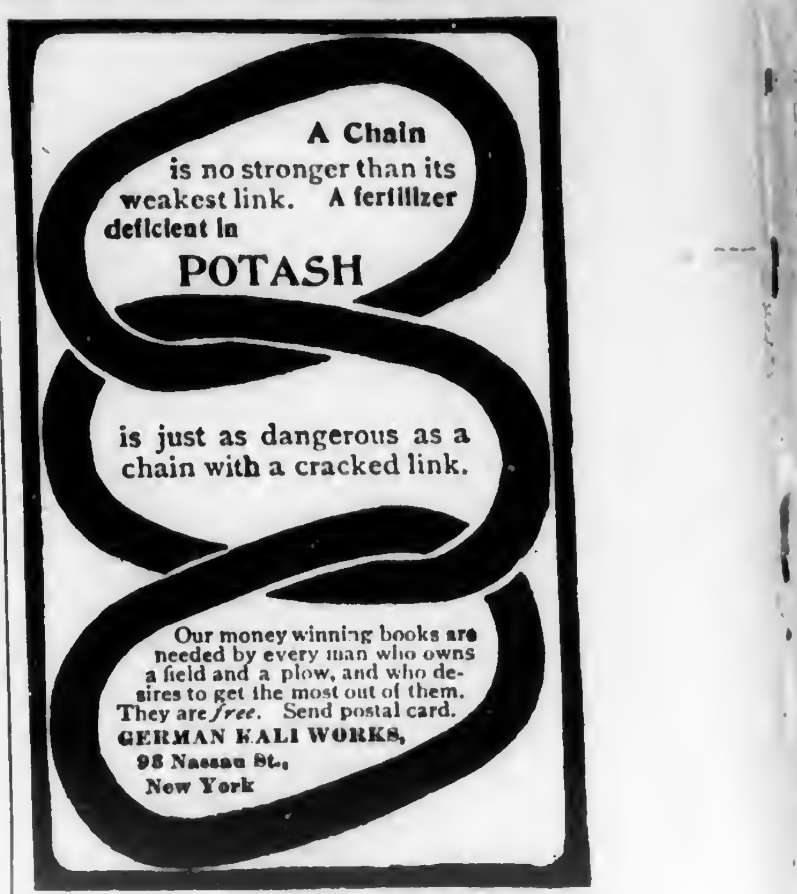


$1,500.00 IN GRAND PRIZES FREE TWO $350.00 SCHILLER PIANOS.
IF YOU CAN COUNT AND PLAN YOU CAN WIN!
If this Chart of Dots gets destroyed in any way we will send you another printed on heavy paper upon receipt of stamp for postage.
Each dot is a distinct dot; any little blur on the paper or in the printing is not counted. There are no double dots.
SUCCESSFUL FARMING
One of the best 32-page illustrated farm papers published, will give to those who count the dots in the above diagram correctly or nearest correctly, or in case of tie suggest best plan, TWO $350.00 PIANOS AND $800.00 IN CASH. Read offer carefully. Greatest offer ever made! You may lose $500 by not entering contest.
Two $350.00 Schiller Pianos as first prizes—one to a lady and one to a gentleman; second prize, $200.00 in cash; third prize, $100.00; fourth, $50.00; fifth, $25.00; next, $10.00; next, $5.00; the next twenty-five, $3.00 each; next thirty-five, $1.00 each; two special prizes of $150 each (see below). Surely out of this immense list you can win. If you can count and plan you can.
AWARDS WILL BE MADE AS FOLLOWS: The person giving correct or coming nearest the correct number, gets first prize, next nearest second prize, and so on down the list. The Pianos will be awarded to those who count correct or nearest correct—one to a lady, the other to a gentleman. If there should be a tie in the count for any prize it will be awarded to the one of those tying who suggests best plan of counting the dots. It is likely the person giving nearest the correct count will win as it is no easy matter to count these dots.
GRAND SPECIAL PRIZES—To the gentleman and lady winning the Pianos will be given an Extra Cash Prize of $150.00 Each if they have three advance subscription counts entered. That is have paid two years in advance to Successful Farming $1.00 for the two years. If you win the piano and have paid one year at 50 cents the judges will give you the piano only. If you win the piano and have two years paid you get $150.00 extra. It will pay all to have the three advance counts.
CONDITIONS—The contest is open to all. Fifty cents pays for one full year's subscriptions to Successful Farming, and entitles you to one count; $1.00 pays for two years and entitles you to three counts and makes you eligible for the grand $150 Special Prizes.
TWO ELEGANT $350.00 SCHILLER PIANOS FREE. These are fine prizes and in order to give ladies and gentlemen each an equal opportunity, one will go to a lady and one to a gentleman. Mark your subscription blank below stating whether you wish to enter "ladies' contest" or "gentleman's contest." Two different members of a family may compete, one in the ladies' and the other in the gentleman's contest, if they wish. Fifty cents pays for one year's subscription to Successful Farming and entitles you to one count, or $1.00 pays for two years and entitles you to three counts, and by taking one on each side of what you think is the correct number you are more likely to win and *besides if you win you get the grand special prizes of $150 each which you do not get if you only have one year paid in advance.* See above regard to special prizes.

She Won a Piano For $1.00.
"You may say to all the world, I received my piano, an elegant Schiller. I never heard of you until I answered your ad., so you have no favorites. I will answer any body sending stamp.—Daisy Keller, Belle Plain, Iowa."
A Check For $150.
"Oh I am so glad. Just received your check for $150. It proves to me that you deal fairly with all. I paid the $150 on our place.—Willis Sheirbon, Merrill, Ia."
First Prize She Ever Won.
"I won $100, all my own. It pays to enter your contests. They are surely conducted fairly.—E. M. Hall, Montrose, Mo."
We will send names and addresses of dozens and dozens who have won bicycles, watches, sewing machines, besides many larger premiums, to any body writing for them.
Publisher SUCCESSFUL FARMING, 256 Manhattan Bldg., Des Moines, Ia.
I enclose $............ for subscription to SUCCESSFUL FARMING and I wish to enter the............(write ladies' or gents') Dot Contest. (If $1.00 is paid send three counts; if more than $1.00, send one additional count for each 50c over $1.00; if only 50c is paid send ONLY ONE count. The $150.00 special prizes go only to those having THREE or more counts entered.
My Count is: (1).................. (2).................. (3)..................
Name..
(Have paper addressed to head of the family)
P. O.................................... State..........................
Remarks: My plan of counting is ....
Please Note—There is no element of chance, of guess work or lottery about this. It is a test of skill pure and simple. If you can count the dots correctly you can win. The number of prizes is so large you are bound to hit it somewhere.
State Treasurer Gilbertson, Mayor Brenton and a Banker, They Will Select, to Award Premiums
To Whom It May Concern: We know the publishers of Successful Farming and can assure anybody interested that they will pay every premium they promise and treat every contestant fairly, showing no partiality. They have asked us to act as judges to award the prizes, and we will gladly act in that capacity.—G. S. Gilbertson, Treas. State of Iowa, and J. M. Brenton, Mayor of Des Moines.
Nobody connected with our paper is allowed to compete. Surely with such judges all may be assured fair treatment. You are as likely to win as anyone.
Key to Dots—To all who wish it and will write on separate sheet of paper "Send me key to dots," and sign your name and P. O. and enclose 10 cents to cover expenses, we will at close of contest send you a key to the dots showing just how many there are. Every contestant should order one, but it is not necessary unless you wish one. No key will be sent out until close of contest.
Contest closes April 30, 1903, ... your counts in at once, the earlier the better. ... having three advance subscription counts ... may enter additional counts at 25 cents each ...
SUCCESSFUL FARMING, 256 Manhattan Bldg, DES MOINES, IOWA



A Chain is no stronger than its weakest link. A fertilizer deficient in
POTASH
is just as dangerous as a chain with a cracked link.
Our money winning books are needed by every man who owns a field and a plow, and who desires to get the most out of them. They are *free*. Send postal card.
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BUY DIRECT FROM FACTORY, BEST MIXED PAINTS
At WHOLESALE PRICES, Delivered FREE For Houses, Barns, Roofs, all colors, and SAVE Dealers profits. In use 61 years. Officially Endorsed by the Grange. Low prices will surprise you. Write for Samples.
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DIBBLE'S SEED POTATOES grown on virgin soil in the cold North, produce larger and better crops than those from any other source. All the new and standard varieties, grown from selected tubers especially for Seed and stored in our own frost-proof storage houses hold the stock free from sprouts till planting time. Our potatoes grown largely on our Genesee Valley Seed Farms (960 acres) are the best obtainable. Prices lowest consistent with highest possible quality. Write for our handsome illustrated catalog. Ask also about our *Seed Corn* and *Seed Oats*.
EDWARD F. DIBBLE, Seed Grower, HONEOYE FALLS, N. Y.

Growing Ideas
What to grow in the garden. When to grow and how. Modern ideas of agriculture and floriculture for those who plant for pleasure or profit. Illustrated in
DREER'S Garden Calendar
Sent free to all who mention this paper.
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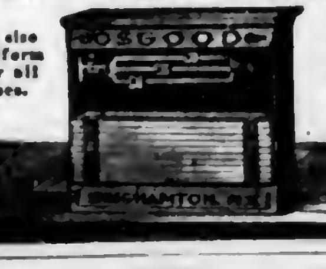

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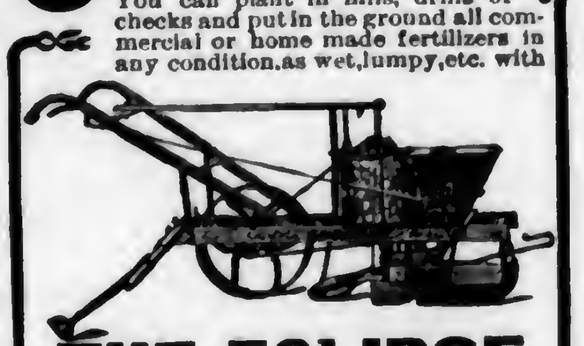
Always accurate
Simple and strong construction. Sold on bonafide guarantee with 30 days free trial. If your dealer will not quote on an OSGOOD, write for catalogue. Osgood Scale Co., 127 Central St., Binghamton, N. Y.
Any size platform for all uses.
In use 35 years.



Corn Planting and fertilizing go hand in hand. You can plant in hills, drills or checks and put in the ground all commercial or home made fertilizers in any condition, as wet, lumpy, etc. with
THE ECLIPSE
Corn Planter and Fertilizer Distributer, With Improved Row Marker.
Adapted as well to Peas, Beans, Beets, etc. Hills 6 to 45 inches apart. Distributes 50 to 450 lbs. fertilizer per acre. Wide and easy adjustment. Light draft, weight 150 lbs. Easy to handle, a model for accuracy and durability. Investigate our Eclipse Two Row Two Horse Planter. Agents wanted in new territory. Write for circulars and terms.
BELCHER & TAYLOR A. T. CO., Box 30, Chicopee Falls, Mass.

Postal Card Correspondence.

This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

Lawndale is located in Cleveland Co., 12 miles north of Shelby, and is a thriving little town of 500 inhabitants. We have good water and pure air. We have a narrow gauge R. R. running to Shelby, connecting with the Southern R. R. Good schools and plenty of churches; school term ten months in the year. Prices: Land, $20 to $125 per acre; horses, from $40 to $125 each; corn, 65c.; meal, 70c.; wheat, $1 and very scarce; oats, 60c. per bu.; pork, 11c.; young chickens, 7c.; old hens, 6c. per lb.; eggs, 12½c. per doz.; butter, 15 to 20c. per lb.; milk, 10c. per gallon; oak wood, 50c. for a 2-horse load, and pine, $1.25 per cord; turnips, 25c.; sweet potatoes, 40 to 50c.; Irish potatoes, 80c.; onions, 80c.; cow peas, $1 to $1.25; beans, $2; apples, $1 per bu. I am always anxious to get the P. F. A. F. NEWTON.
Lawndale, N. C., Feb. 28, 1903.

Hendricks is located in Tucker Co., Northern West Virginia, on W. Va. C. R. R., and at junction of Dry Fork R. R. Soil is clay limestone, and owing to high altitude and mountainous character, is better adapted to grazing than general farming, although most cereals do finely. We usually have pleasant summers and not extremely cold winters; the coldest this season being 8 degrees below zero, Feb. 19th, which is as cold as it usually gets. Prices as follows: Wheat, 80c.; corn, 70c.; oats, 50c.; buckwheat, 60c; apples, $1; potatoes, 75c. per bu.; hay, $1; straw, 50c. per cwt.; eggs, 20c. per doz.; butter, 20c.; beans, 5c.; cabbage, 2c. per lb.; horses, from $50 to $150; cows, $25 to $40; calves, $10 to $20 each; beef, 3½c. on foot and 7c., dressed, per lb. This is a manufacturing country and farms are neglected. A. G. FANSLER.
Hendricks, W. Va., March 2, 1903.

Located in Monroe Co., on the northeastern prairie belt; formerly known as the "Egypt of the South." Soil black and very productive with proper cultivation. Winter mild, with excessive rains. Very little plowing done so far. Principal crops are corn and cotton. Considerable land sowed to leguminous crops the last few years, which flourish admirably here. Prices: Cotton, 8 to 8½c. per lb.; corn, 50 to 75c. per bu.; horses, $15 to $100 each; land, $10 to $30 per acre. B. G. MILLER.
Gibson, Miss., March 2, 1903.

Located in northern part of Tioga Co., 5 miles west of Wellsboro, 3 miles east of Ansonia, nearest R. R. Had sleighing from Dec. 6th to Feb. 5th; warm rains until the 15th, when 15 inches of snow fell; a blizzard followed the storm which lasted until the 20th, thermometer registering 15 degrees below zero. Prices: Hay, $8 to $12 per ton; oats, 40c.; corn, 58c.; potatoes, 60c.; apples, 40 to 50c. per bu.; eggs, 16c. per doz.; butter, 22c. per lb.; soft coal, $2.50 per ton at the mines; $3.50 per ton at Wellsboro; seasoned stove wood, $1.50 per cord, delivered. JOS. E. FISCHLER.
Spicewood, Pa., March 4, 1903.

Situated 6 miles south of Boonville, the county seat. After a great deal of rain, we are having the coldest days of the season. Farm work is behind on account of so much rain. Wheat looks well. Good schools and churches. Farming and stock raising are principal occupations. Prices: Wheat, 70c.; corn, 35 to 40c.; potatoes, 50c. per bu.; hogs, 6c. per lb.; cows, $25 to $40; horses, $60 to $125; young mules, $50 to $125 each; hens, 9½c.; butter, 15c. per lb.; eggs, 13c. per doz.; farm help, $14 per month; girls, $1 per week. MRS. U. S. YOUNGBLOOD.
Boonville, Ind., March 2, 1903.

Located 22 miles from Los Angeles, the county seat. Weather has been very cold and frosty for here; some oranges frozen, but farm work is getting along. Prices: Chickens, $6; eggs, 20c. per doz.; hogs, 9c.; dressed beef, 6c.; butter, 35c. per lb.; potatoes, $1.25; wheat, $1.50; corn, $1.40; barley, $1.35 per cwt.; barley hay, $10; alfalfa, $11; oat hay, $12 per ton; wood, $9 per cord; coal, $4 per ton; apples, 7c. per lb.; oranges, $1 per box; dried peaches, 4c.; dried apricots, 6c.; prunes, 10c. per lb.; horses, $40 to $200; mules, $75 to $200; cows, $40 to $80 each; wages, men, $1.50 to $2 per day; girls, $20 to $30 per month and board. E. D. JAMES.
Irwindale, Cal., Feb. 24, 1903.

Located at Findlay, in Shelby Co. Rich farming country; corn is king; crop good last season; oats good also; not much fruit grown. Prices: Corn, 37c.; potatoes, 80c.; apples, $1.60 per bu.; eggs, 15c. per doz.; country butter, 15 to 20c. per lb.; clover hay, $5 per ton; horses, $100 up; milch cows, $40 to $60 each; farm laborers, $18 to $22 per month and "keep;" teachers, $35 to $50 per month for six months winter term. Good schools and churches; telephones all over county, and constantly increasing. New interurban through Shelbyville to Springfield contemplated. $10,000 Carnegie library to be built in Shelbyville at once. New R. R. coming here in spring; part of material for construction here. Tuesday, February 17th, coldest day. No peaches, "they say," next season. County Farmers' Institute here Feb. 19th and 20th. Domestic science club organized. Farmers' co-operative elevator company organized. There are 33 in this State. J. F. WILLIAMS.
Findlay, Ill., March 2, 1903.

Situated in Fannin Co., North Texas, 9 miles south of Red River, in heart of fruit district. Peaches and small fruits mostly grown in perfection. Three railroads, with good prospects for another. St. Louis is natural market for this country, distant 600 miles. Mild winter; second snow Feb. 17. We plant Irish potatoes in February; corn 1st of March; cotton and other crops early in April. Old credit system in force, but unpopular these prosperous times. Present prices average 25 per cent. above current St. Louis market. Reason, everybody buying, nothing to sell. WM. W. BRANOM.
Danner, Texas, Feb. 27, 1903.

Located in Lincoln Co., Ky., 40 miles from Lexington. We live within three miles of three railroad stations. Last summer was hot; had splendid rains; good season. Corn, $3 per bbl.; wheat, 85c. per bu.; cows, $25 to $50 per head; hay, $12 to $14 per ton; hogs, $5.50 per cwt.; eggs, 20c. per doz.; turkeys, 10½c.; chickens, 9c. per lb. Land generally fertile and splendid for farming and stock raising. Price of land, $30 to $90 per acre. MRS. PRICE SUTTON.
Lancaster, Ky., March 2, 1903.

Located in South Central Florida. Land high and rolling; finest trucking country; fine lakes and lots of fish; game abundant. Only one-twentieth of land cleared and under cultivation. Three lines of R. R. in county; two pass through our city. Lands are cheap, selling at $3 to $10 per acre, according to grade and nearness to depots and city. Fruits do well, especially peaches, plums, berries, oranges, limes, guavas, bananas and pineapples. No saloons allowed; churches good and plenty of them, taxes and assessments low. Oranges blooming and some peaches as large as hazelnuts; berries, cabbage and lettuce being shipped. W. E. EMBRY.
Dade City, Fla., Feb. 28, 1903.

Located 5 miles west of Knoxville. Land rolling but productive under good culture; well adapted to small fruit. The winter has been wet but not very cold; no snow until the past week which was our coldest weather, the thermometer going as low as 9 degrees above zero three or four mornings in succession, which destroyed cabbage set in the open ground, and also some which remained in the cold frame. Peaches killed; also Japan and European plums and Kieffer pears; cherries and apples apparently all right. Wheat looks well, but small crop sown. Very little farm work done and labor scarce. Land sells from $20 to $100, according to location; horses, $50 to $150; good mules, $100 to $150; cows, $25 to $45 each; hogs, 6½ to 9c. per lb.; pigs, $2 to $3 each at 6 weeks old; beef cattle, 3½ to 4¼c.; veal calves, 2½ to 5c.; chickens, 10c. per lb.; eggs, 12½c. per doz.; butter, 25c. per lb.; Irish potatoes, 80c.; sweet potatoes, 70 to 90c.; Clay peas, $1.35; Black Eye, $2; corn 66c.; wheat, 85c.; oats, 50c. per bu.; hay, $1 per cwt. Schools and churches plentiful and well attended. Health good. Tramps scarce. Fuel high and roads bad. C. B. COLEMAN.
Knoxville, Tenn., Feb. 28, 1903.

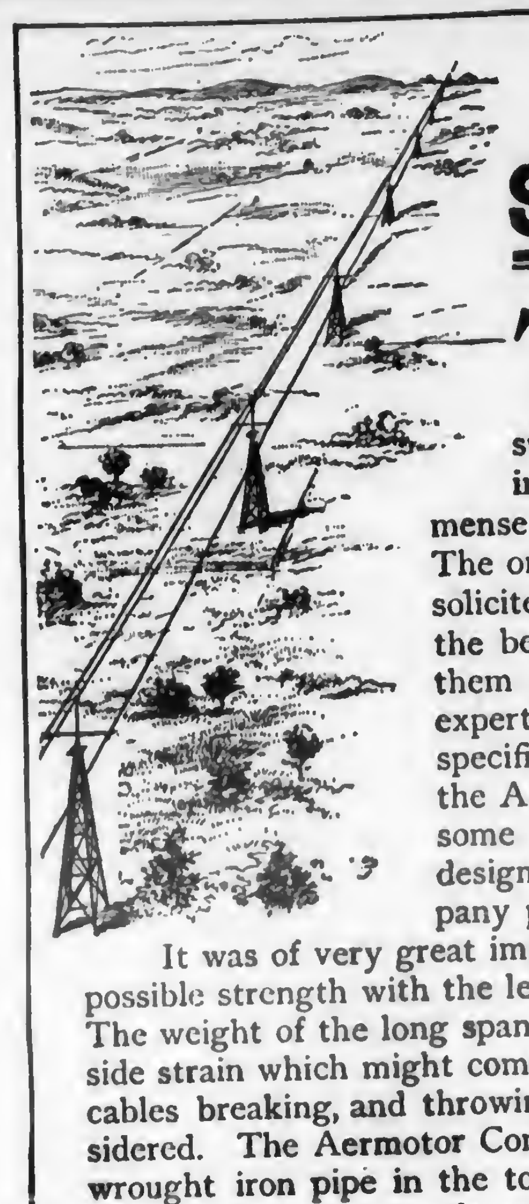
Located in eastern part of Mineral Co., 10 miles southeast of Keyser, 25 miles south of Cumberland, Md. Keyser is our county seat; two railroads run through it, B. & O. and W. Va. C. R. R. We have had some very cold weather; 8 degrees below zero. The largest Co. in world engaged in peach growing is this county. Corn, oats and wheat are our main crops. Timber is fast disappearing. Owing to the extreme drought last summer feed is scarce and hard to get at any price. Hay, $18 to $25; oat straw, $11; wheat straw, $9 per ton; corn, 55c. oats, 40c.; wheat, 85c.; potatoes, 65c. per bu.; horses, $75 to $125; cows, $25 to $40 each; sheep, 3½c.; chickens, live, 8c.; butter, 22c. per lb.; eggs, 22c. per doz. Has been too wet to do much plowing. Free school term five months. Some talk of free mail delivery. This country is in a prosperous condition. More stock is being raised than a few years ago. Hired hands, 75c. to $1 per day; girls, $1 to $1.50 per week. EMANUEL BISER.
Headsville, W. Va., Feb. 82, 1903.

So many have written to me, asking about this country (and most of them failed to enclose stamps) that it is impossible for me to answer. We have a good country here; not so good as some, and much better than some other. The worst trouble is we have too many pseudo farmers, who keep their land in one crop till it won't produce anything. Wages are usually good, and there has been a scarcity of hands this winter. However, many young men of this country spend their summers further west, where farming is done on a larger scale. At present eggs are 15c. per doz.; butter, 15c. per lb.; cows, $25 to $40 each; onions, $1; potatoes, 40c. per bu; other things in proportion. J. F. BOTTS.
Glenwood, Mo., Feb. 28, 1903.

◆

When you buy a McCormick corn binder you can harvest your corn crop easily—quickly—successfully, and your stalks and fodder will be in excellent shape for shredding.

Woven Wire Fencing,
Door and Counter Mats and other wire Goods direct to user at a saving of 30 to 60 per cent. Send for circulars. Good agents wanted.
WIRE SPECIALTY CO.,
Akron, O., Dept. C.

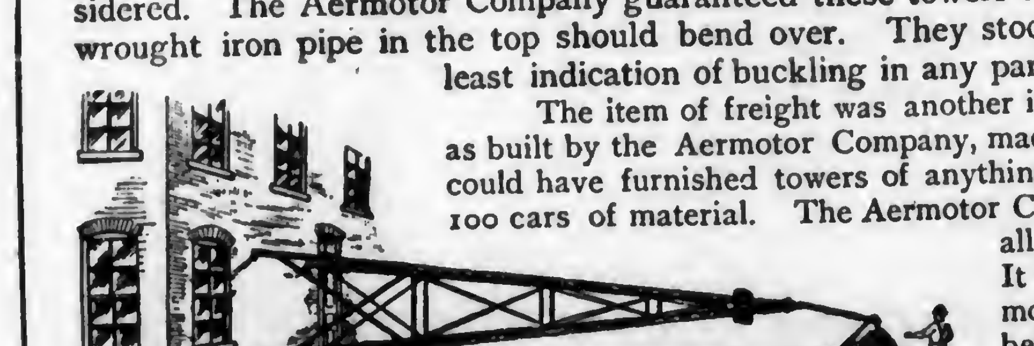


Top of tower after the test.

110 MILES OF STEEL TOWERS

The largest order ever placed for Steel Towers has just been executed by the AERMOTOR COMPANY, Chicago. The order was for 1,200 steel towers to support large electric cables. These towers are to be erected in the interior of Mexico, to carry electricity from an immense water power plant up to the mines over 100 miles distant. The order for these towers came to the Aermotor Company unsolicited. The reputation of the Aermotor Company for building the best steel towers, for windmill and other purposes, brought them this unusual order. When the engineering and mining experts, who were placing the contract, were making up their specifications for these towers, they found no place in the construction of the Aermotor tower where they could suggest improvement. The sizes of some of the parts were changed to meet their particular needs, but the design of the towers remained precisely the same as the Aermotor Company perfected it years ago.

It was of very great importance to the company buying these towers to secure the greatest possible strength with the least material. The towers were to be placed about 500 feet apart. The weight of the long span of cables would be a very heavy load, to say nothing of the enormous side strain which might come upon the towers. Then, too, the contingency of one or more of the cables breaking, and throwing unequal strain upon different parts of the towers, had to be considered. The Aermotor Company guaranteed these towers to stand until the 3-inch, extra strong wrought iron pipe in the top should bend over. They stood this very severe test without the least indication of buckling in any part of the tower.



Testing the tower.

The item of freight was another important consideration. These towers, as built by the Aermotor Company, made over 75 carloads. No other concern could have furnished towers of anything like the same strength with less than 100 cars of material. The Aermotor Company has a very great advantage over all others in the manufacture of steel towers. It was the first in the field, and had all the most vital features fully covered by patents before competitors were through laughing at the idea of a steel tower. The Aermotor tower was designed by mechanical experts who knew what points were essential to secure the greatest strength with the least material.

The tops of the corner posts of the Aermotor towers are dovetailed into each other and securely clamped together. This makes them as solid as though they were welded into a single piece. This patented device in the Aermoter tower brings all of the strain directly upon the corner posts where it belongs. The braces and girts have nothing to do but to hold the corners in line. Because other makers are not able to adopt this feature, they are compelled touse a large amount of extra material in their towers, and even then their towers are not so strong. Weight often indicates weakness rather than strength. All the weight not needed serves only to bring additional strain upon the parts which must bear it.

The best steel tower, like the best bicycle, is the one which secures the greatest strength with the least possible material. The Aermotor tower is strong, safe and durable. Every pound of steel which is put into it is used to the best advantage. A tower twice as heavy, but poorly constructed, would be weaker.

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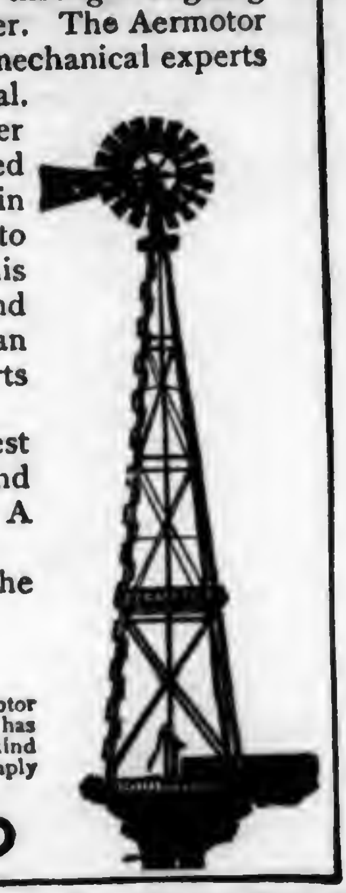

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THE KEYSTONE TO SUCCESSFUL FARMING

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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

How to Raise Crops in an Old, Unproductive Orchard.

Mrs. O. H. Webber, Tolland, Mass., writes of having an old orchard on a side hill. The oldest inhabitant cannot remember when it was plowed before the last two years. It is so old as to be unproductive. Hungarian grass and buckwheat were grown under the trees two years ago. Corn planted last year failed entirely. Mrs. Webber writes of intending to put in oats this year, and to sow clover seed with them to improve the soil. She asks what fertilizer to use, as they cannot spare any manure. Oats are about as poor a crop as one can sow in an orchard, as far as robbing the trees is concerned. They take a large amount of water out of the soil, as well as the plant food needed to grow the crop. This water is largely used at a time when apple trees need moisture to grow the fruit. Corn does not take as much water for producing a pound of dry matter, but an acre of corn will usually weigh more, dry, than an acre of oats, and corn draws on the water later in the season when the apples want it still more, so corn is not a good crop to grow in an orchard. And then the shade of these trees will prevent the growing of most any crop profitably, even with sufficient fertilizer applied. My way would be to clean those trees out, root and branch. Our friend states that they are so old as to be unproductive. It is not likely that they could be made to pay with the best of fertilizing and management. And certainly crops under them will not be profitable, as a rule. Take out the old trees and then give the crops a full chance. This will be far better than getting little or nothing from either crops or trees. There are many old orchards of this kind in the country. Now, do not cut down the trees and leave the stumps, unless you need the land for pasture while the stumps are rotting out. If you desire to plow and crop the land take the stumps out when you do the trees, all at once. It can not be done as easily any other way. Have a man dig the earth away from the roots all around the tree. Then chop them off, what you can handily get at. Then hitch a chain or heavy rope near the top of tree. The rope or chains should be long so as to reach out quite a distance. Then hitch a pair of steady pulling horses at the end. Oxen would be better. Let one man drive the team while another watches and cuts any roots that hold. I have pulled over many an apple tree in this way, as well as other large trees. It is well to cut the roots far enough from the tree so there will not be many left for grubbing. Let them come out with the stump. I used a steady old team that would go with a rush, throwing all their weight into the collars. Hitch chain as high as you can and not have top of tree break off. Of course one can do better with pulley blocks and ropes, but old apple trees can be taken out quite readily as I have described. Then plow the land and grub out what few roots may be in the way of the plow, and it is ready for cropping. With a good man to help one can pull over a good many apple trees in a day. Then cut up what you can for wood and burn the rest. How often one sees an old orchard cut off and stumps left, to plow and cultivate and mow around. I would by all means take them right out of the ground, with the trees. It will not take very much more time. It is more business-like. The orchard then becomes at once cleared land ready for cropping.

Applying Manure.—Summering It.—Loss, Spread on Side Hills.—W. A. Thompson, Laings, O., asks the following questions: "Which is the better plan, to haul manure out as it is made and put on ground to be plowed for corn, or to pile it during the winter and put it on wheat ground in the fall? What will the loss be when it is so piled? This is a hilly section; would there be any loss from leaching where manure was spread in winter?" One cannot answer these questions positively. Circumstances alter cases. As a general rule, where manure will not be washed away on the surface, it is a good plan to apply it as made to corn ground. It will be safer when put on sod ground, as it will be less likely to be washed away. But now, on the other hand, where there is trouble in getting a stand of clover, or grass, in wheat, the manure used as a light top dressing after plowing, will help the seeding decidedly, as well as the wheat. So sometimes it may be best to do this way. Getting a good stand of grass, or clover, is an important matter on some farms. And still there are objections to this plan. It is not so easy to haul the manure on plowed ground. It packs some of it too hard, perhaps, drawing a loaded wagon over it. One is usually more busy at that time of year. The manure kept over will lose some in value nearly always, and a good deal, even one-half perhaps, if carelessly managed. All these things must be thought of. If the manure is to be kept over it should be in a snug, solid pile, away from eaves of barn, or surface wash on a side hill. It would be well to encourage animals to go on it during the winter and tramp it solidly to prevent excessive heating. They will do this if one puts rubbing posts in the manure and has a broad, flat pile that he puts manure onto. I used to do this way years ago before building manure shed. Before a rain, and after the winter is over, shovel the sides up clean. When you are through adding to the pile cover it with soil, sides and top. Thus treated the loss will be small. It is well to take the horse manure to this pile and spread it in thin layers over the pile, thus working it in with the cow manure, which does not heat as readily. This makes it better for both kinds. There should be a slow heating and decaying to fit it for top dressing in fall, but not enough to show in steam rising from the surface. Excessive heating wastes the most valuable part, the nitrogen, which changes into ammonia and escapes up into the air.

As a rule, sod land, on a side hill, if not frozen, will hold the leachings from the manure spread on surface, when it rains. The vegetable matter in sod prevents the water from running off; encourages it to soak into the soil. Stubble ground will not hold it quite as readily, and particularly if the soil is short of vegetable material. If manure is put on frozen ground, sod or stubble, and a heavy rain comes suddenly, before ground thaws out, or snow comes and goes off with a rain, manure will be likely to go with it. And it will be the very best of the manure, the most valuable parts, such as the liquid that was absorbed by the bedding. Whenever you see streams of colored water running off on the surface of a top-dressed field, rest assured that plant food is going with it. If you saved all the liquid with cement floors and bedding it will about all wash out, if it rains and washes long enough. It is true, as sometimes stated, that color is not necessarily fertility, but common sense will teach you that liquid absorbed by straw can be washed away by rain. The soil it runs over in little rivulets will not absorb much of it. There will be serious loss. I had quite a quantity of manure water once cross a wheat field on frozen ground and it practically did not increase growth of crop. A lot of plant food, however, went off into the creek. It is not often that the conditions are such that much loss will take place in this way, but manure is too valuable for one to take very much risk in this line. Personally, I have not taken any of late years.

Health Hints. — How Colds "Originate."—A physician made the following statement in an address at a medical college not long ago: "Every cold that ever afflicted mankind was contracted through chilling the surface capillaries. Nobody ever had an internal cold nor any other that did not originate in capillary chill and depression." This address was printed in a leading medical journal and in pamphlet form has been reprinted and scattered broadcast through the land for advertising purposes, as the speaker was recommending a certain class of underwear as best to prevent chilling the surface of body. Is it not a shame that a medical man is allowed to teach such doctrine as that to a class of students, in this day of the world? Do you want to trust your health and life in the hands of doctors who have no more common sense than this; who haven't used their eyes and brains at all, but just stick to everything found in their text books of the past? This calls to mind another matter. Not long since a well-known college president was riding on a sleeper. The air was pretty close and he raised a window along in the night to get a few breaths fresh from out of doors. His intention was to close it before he went to sleep, but he dropped off and did not wake again until morning, and the window remained open. As a result, in the judgment of the president and a ministerial friend who reported the matter to me, a cold was "originated" which ended in pneumonia, and a great and noble man was taken away right in his prime. Here we see more of that same erroneous teaching, and among highly educated men, too. You say, perhaps, what is the difference, people take cold and often die, what difference does it make about just how the cold comes? Why just this, knowledge is power. It will enable one to practically avoid taking cold, but not by steering clear of draughts and fresh air. Such wrong ideas make people avoid one of the things that would help most about keeping them free from colds. They do not understand the real fundamental cause of a cold at all; there is the trouble. By the capillaries the doctor meant the little minute pores that are scattered all over the surface of the body. Here is a question that would trouble that doctor: "People get chilled many times and no cold follows; why?" If a cold is always produced by a chill ought not a severe chill to bring on a cold. Every one of you can remember that you have gotten very cold, even so your teeth chattered, and still no bad result followed. Why? simply because your system was in good order; everything was all right. Had everything been all right with the president mentioned above the fresh air that came in the window would have helped rather than hurt him. He had been overeating in proportion to exercise taken, overdoing in some line, lost sleep, or something. How fearfully bad it is to have our brightest people think exposure to fresh air, God's blessed, pure air, can be the origin of sickness and death. The writer never rides in a sleeper at night without having one window open, and often two. There is something in being accustomed to it, though, for people who invariably keep themselves cooped up. One may be so used to breathing impure air that pure will be too much for him all of a sudden, although vastly better when he becomes accustomed to it. Perhaps the chilling of the capillaries is sometimes the immediately inciting cause of a cold, when the system is out of order; but there is another view of this matter that may be equally conceded now that when a cold is contracted the system must be overloaded with impurities at the time of exposure. I believe there is no question about the truth of this. Then we know that cold air is a powerful tonic and tends to bring the system into a more normal and vigorous condition. No one will dispute this. Now does not the tonic influence of the cold stimulate the system to go to work and clean house? Does it not give the vitality necessary to start up inflammation somewhere (sore throat, cold in nose, etc.) to try and remove the impurities that are making trouble? I think so. A cold starts sometimes without any chilling. How else can it be explained? When your wife feels extra well she is all ambition to clean house in the spring. If she were poorly she would have little desire to get at it. The cold air stimulates your system and sets it to work to mend itself. Macfadden says a cold is always a curative process and never yet hurt anyone; that it is unwise treatment of it that harms us and brings on pneumonia, consumption, etc. We obstruct nature's efforts instead of assisting her. Live and learn. Ten years ago I would keep over warm in the house, in case of a severe cold. Now I would take all the pure, fresh air I could get, and if cold all the better, instead of babying myself over the stove and fearing the pure air of Heaven, nature's great tonic and stimulant. In addition to this I would stop eating for a time and take moderate exercise.

T. B. Terry.

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Corn Culture and Breeding.

[By A. D. Shamel, Illinois Experiment Station, Urbana, Ill.]

The important points under the farmer's control in the production of a profitable crop of corn are fertile soil, improved seed, and the best methods of culture. By farmer's control is meant, that the corn-grower can influence the above conditions so that they may be made to produce the largest yield of corn per acre most economically. The fertility of the virgin soil seemed almost boundless to the pioneer farmer. He planted crop of corn after crop of corn, or crop of wheat after crop of wheat, producing large yields of both crops. Little attention was given to the application of the principles of plant growth to our farm crops. In Indiana and Illinois such systems of farming have reduced the fertility of the soil to such an extent that profitable crops can no longer be produced by the old one-crop system of farming.

At the Illinois Experiment Station, corn has been grown year after year on a field of the college farm, without any application of manure or fertilizer of any kind. This experiment was begun twenty-four years ago, and the best kind of cultivation and methods of preparing the seed bed have been used in the growing of the crops. The crop has been carefully weighed from year to year. The yields per acre have been kept since 1888. The records since 1888 are as follows (per acre):

	Ear Corn Bu.	Stover Tons		Ear Corn Bu.	Stover Tons
1888..	60.13	1.26	1895..	63.81	1.51
1889..	47.15	1.21	1896..	62.31	1.74
1890..	41.87	1.19	1897..	40.10	1.61
1891..	26.67	1.23	1898..	18.11	1.39
1892..	30.92	.75	1899..	50.09	1.61
1863..	21.73	1.04	1900..	48.03	1.29
1894..	34.83	1.26	1901..	23.65	1.14

In other words, in 1901 it cost 50.6 cents per bushel to raise the crop. It is a noticeable fact that the yield per acre has gradually decreased on this field. The appearance of the soil has been changed. It is a clayish, white color compared to the rich black color of the adjoining rotated fields. The yield varies with the season, but is less than half that of rotated fields or the ordinary fields of the Station farm, with similar original conditions of soil fertility.

One of the most important ways of getting the soil in good condition for the corn crop is by means of the leguminous or "cover crops," *e. g.*, cow peas, soy beans, clover and alfalfa. The soy bean and cow pea crops have been found to be especially beneficial to the soil, valuable as food, and successfully grown under widely differing conditions. In Illinois and Missouri these crops grown in the fields for a single year have been found to increase the yield of corn from five to eighteen bushels per acre. The hay has been found to be at least as valuable as ordinary red clover hay, and the crop is harvested in much the same way. As the land becomes more and more exhausted, it becomes more difficult and expensive to secure a stand of ordinary red clover. Where alfalfa can be grown, this crop is very valuable for preparing the soil for corn. In most seasons cow peas and soy beans, drilled between the rows of corn just after the last cultivation give good results. These crops will produce from one to two and one-half tons of hay per acre, and will increase the fertility of the soil. Where the soil is a rich prairie loam, the soy bean is more successful than the cow pea. The soy bean is easily harvested, but great care must be taken to secure good seed. If the cover crops are grown and rotated with corn, and the crops taken from fields, the soil will eventually become exhausted. These leguminous crops add to the supply of nitrogen in the soil, but they do not add the other elements of fertility, particularly potash and phosphorous. With continuous cropping of any kind, the fertility is bound to run out eventually. The only way by which corn-growers can continue to grow profitable crops is by feeding the corn and hay crops to live stock and returning the manure to the soil. There is no fertilizer so valuable as barnyard manure, and it is only by the careful conservation of the manure from the corn and other crops, fed to live stock, and its judicious application to the fields, that the soil will continue to produce profitable corn crops.

The second important feature of the growing of a corn crop is seed corn. It has been found that corn can be bred like cattle. It costs no more to grow a large crop upon the field than a small crop. The expense of cultivation, interest on investment and labor are the same in both cases. If by breeding the yield can be increased five bushels per acre, this increase is pure profit to the grower.

Previous to 1897 little was done in the way of systematically breeding corn. Some few men, early in the past century, realized the far-reaching importance from well bred seed, and began crude attempts at improving their strains of corn. The fact of the matter is, that careful breeding and selection result in more profitable types.

By careful counts made in various counties in Illinois, for the last three years, it was found by the farmers that almost one-third of the stalks in the field were barren. These barren stalks probably take nearly as much fertility from the soil as the stalks bearing ears, and they cost as much to grow as the fertile stalks. On the 137 farms of the Sibley Estate, Illinois, it was found that nearly thirty per cent. of the stalks were barren. On this estate especial attention has been given to seed selection, and the probabilities are that the corn on these farms is more free from this condition than on the average farm.

By looking over the corn in the cribs in any of the corn sections of the United States, a very small proportion of uniformly perfect ears are found. The majority are very weak in some particular, as in shape of ear, filling out at butts and tips, depth and shape of kernel, purity of color and other points. That the average quality of corn is very poor is shown by the average yield per acre. The average yield per acre in the great corn States, according to Government statistics, is about thirty bushels per acre. If every stalk in a hill produced a well developed ear, at the average width of planting, three feet six inches by three feet six inches, with only two stalks in a hill, the yield would be about 100 bushels per acre. As a matter of fact, the average number of stalks per hill is more than two.

In view of these facts, a few extensive corn-growers organized the Illinois Seed Corn Breeders' Association, in 1900. The object of this organization is to systematically improve, through co-operation with the State Experiment Station, the breeds of corn in this State.

As a result of the work of the breeders of this association, improved and carefully selected seed has been sent to the farmers of various sections of the corn belt. At present there are seven recognized varieties of corn, as follows: White.—Boone County White, Silver Mine and White Superior. Yellow.—Leaming, Riley's Favorite, Reid's Yellow Dent and Golden Eagle.

The system of breeding is as follows: The variety must be kept pure and free from all mixture. This is a difficult problem in most cases, because the pollen will drift at least eighty rods. The breeding must therefore be done where the breeding field can be protected from other corn fields, as by hedges, timber or other natural barriers to pollen drifting, or in a very large field of the same variety that is being bred. This last plan has been used with good results in developing sweet corn varieties, but it not so quick in results as the plan of isolating the breeding fields. This is due to the fact that if the breeding field is located where it will be pollenated by the pollen of inferior stalks, even of the same variety, this fertilization will be detrimental to the development of the variety and the weeding out of the unfavorable types. A field of about an acre in size of the best corn land is selected. The character of soil is of extreme importance. The placing of the breeding plat in a poor soil a single year may destroy the work of many years' careful breeding. The land should be carefully prepared, according to the best methods of fitting the seed bed in that locality. The plan is to plant each ear by itself in this field, either in plats ten hills square or in a row. For simplicity the row system will be described, and the same principles will apply to the plat as to the row plan. Select thirty-two typical ears of the variety to be improved. This seed should be secured from some breeder of this variety, because he has accomplished what would take the beginner many years to develop. Lay out this acre with marker. Shell off the tips and butts of the ears to be used for seed, and plant three kernels in every hill, by hand, covering with the hoe. Plant one row 112 hills long for each ear. Now cultivate ordinarily. As soon as the corn begins to tassel, go through the field three times, once every other day, and cut off or put out the tassels of all stalks that have produced no shoots, all weak stalks and all suckers. These barren and poor stalks produce more pollen than the stalks bearing ears, and it is important that this pollen does not fertilize the future seed. The seed kernels will produce plants more like the parents, and if one of the parents is weak, the chances are that this weakness will crop out in some of the progeny. In Illinois this per cent. of barren stalks has been reduced from sixty-two per cent. to twelve per cent. in five years, from such attention. In the fall the number of good ears should be counted in every row. The seed for the next seed field should be selected from the ten rows producing the largest number of good ears. The prepotency in the seed for the production of this improved type can thus be taken advantage of and the undesirable types weeded out of the variety. The rest of the field can be used for general planting. Following is an outline of the above described field; the figures at the left are the ear numbers.

1............
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The vitality of all seed corn should be tested. A good, profitable stand can only be secured from vigorous seed. This vitality can be tested by every corn-grower by this simple method: Take three kernels out of every seed ear—one from near the tip, one from the middle, and the other from near the butt of the ear. Fill an ordinary china dinner plate nearly full of sand and pour water on until thoroughly saturated. Now plant 100 kernels, point down, in the sand. Place a second, somewhat smaller, plate over the first, to prevent the too rapid evaporation of the moisture, and set in a warm room. Keep a record of the time and number of kernels sprouted in this kind of table:

Name of variety............
Date of testing............
Number of kernels............
Source of seed............

Date	Temperature	No. Germ.	Per cent. Germ.
....	....	....	....
....	....	....	....
....	....	....	....
....	....	....	....
....	....	....	....

In seven days ninety-five per cent. should have germinated. If less, the seed should be discarded and better secured. The seed should be thoroughly dry, in order to keep the vitality unimpaired. A simple and effective plan in ordinary seed selection is to select the seed corn in the field. Tie a box to the rear of the wagon box and when a particularly fine ear is found on a well developed stalk, throw the ear into the box. A second selection can be made at the corn crib and the ears finally chosen for seed stored in boxes. These boxes should be lined with screen wire drawn over the open top. This will prevent mice and rats from eating the seed, and will permit free ventilation. Now set these boxes in an attic or other room provided with a stove, and keep up fire or heat until the ears are thoroughly dried out. After once dry the seed will not be affected by the extremes of temperature. In moist and immature kernels the cold freezes the moisture in the young plant and swells the cell, bursting the delicate tissue. If the seed is to be stored on an extensive scale, a special building should be prepared, set on tile, to prevent mice getting into the seed room. The ears should then be ricked up in regular order. A good plan is to lay them between 2x6 uprights and set the ricks several inches apart so that the dry air may circulate freely on all sides of the ear. A small stove will dry out the seed in two or three weeks' continuous drying.

In selecting the seed ears, the object is to select such ears as will produce the largest amount of shelled corn. In the first place, rough ears of medium size, with a large number of rows of kernels, weigh out the most shelled corn. The rough kernel is the deep kernel, and with a large number of rows on the cob the greatest amount of corn can be crowded on an ear.

The length of ear will vary with locality—the shorter the season the longer the ear, and *vice versa*. In general, the ordinary type of corn should be between ten and eleven inches in length, and five, seven and eight inches in circumference. There is no objection to a longer ear, providing it is proportional and will mature in the season in which it is grown. With recognized varieties the standards of length, circumference and per cents. have been adopted as follows:

	Length	Circum.	p. c.
Boone County White....	10	7.5	86
Silver Mine	9	7	90
White Superior	10	7	88
Leaming	10	7	88
Reid's Yellow Dent....	10	7	88
Golden Eagle	10	7	90
Riley's Favorite	9	7	90
General	10-11	7½-8	88

These standards will be changed in the process of development, but they tend to fix the characteristics at present. The roughness of kernel, color, etc., will vary with the variety. For the recognized varieties the following characteristics have been adopted:

VARIETIES STANDARDS.

	Reid's Yellow Dent	Golden Eagle	Riley's Favorite	Leaming	Boone Co. White	Silver Mine	White Superior
Ear							
Shape	Slowly tapering	Slowly tapering	Slowly tapering	Tapering	Cylindrical	Cylindrical	Slowly tapering
Length	10 in.	9 in.	9 in.	10 in.	10 in.	9 in.	10 in.
Circumference............	7 in.	7 in.	7 in.	7 in.	7½ in.	7 in.	7 in.
Kernel							
Condition	Firm, upright	Loose, upright	Firm, upright	Firm, upright	Firm, upright	Firm, upright	Firm, upright
Color	Light yellow	Deep yellow	Deep yellow	Deep yellow	Pearl white	Cream white	Starch white
Indentation............	Medium smooth	Very rough	Rough	Rough	Rough	Very rough	Medium rough
Shape	Long wedge	Broad wedge	Medium wedge	Medium wedge	Medium wedge	Broad wedge	Very broad wedge
Rows							
Number	18-24	16-20	16-20	16-24	16-22	16-20	18-20
Space	Narrow	Medium	Medium	Medium	Medium	Narrow	Medium
Arrangement............	Pairs	Distinct	Pairs	Pairs	Pairs	Pairs	Pairs
Butt							
Filling out............	Deeply rounded compressed	Moderately rounded compressed	Moderately rounded compressed	Moderately rounded compressed expan'ed	Moderately rounded compressed	Moderately rounded	Shallow rounded depressed
Tip							
Filling out............	Regular rows of kernels	Regular rows of kernels	Regular rows of kernels	Irregular rows of kernels	Regular rows of kernels	Regular rows of kernels	Regular rows of kernels
Shank							
Size	Small	Small	Small	Medium	Medium	Small	Medium
Cob							
Size	Medium	Small	Small	Medium	Medium	Small	Medium
Color	Deep red	Deep red	Deep red	Deep red	White	White	White
Per cent. of corn	88	90	90	88	86	90	88

In studying the seed corn the score card is a very useful helper, and the card adopted by the Illinois Corn Growers' Association is given here as a suggestion in the studying of the various points in an ear of corn according to their relative importance:

Name.	Perfect score.	Explanation.
1. Uniformity	10	Uniform type, size, shape, color, indentation.
2. Shape of ears..................	5	Cylindrical, partly cylindrical and taper.
3. Color of ears	10	White kernel, white cob; yellow kernel, red cob.
4. Market condition	5	Soundness and maturity.
5. Tips of ears	10	Filled out with regular rows of kernels.
6. Butts of ears	5	Kernels swelled around shank evenly.
7. Uniformity of kernels	5	Uniform type, color, size and shape.
8. Shape of kernels	5	Wedge shape.
9. Space	10	Narrow, medium and wide.
10. Length	10	Conformity to standard for variety.
11. Circumference	5	Conformity to standard for variety.
12. Per cent. corn	20	Conformity to standard for variety.
	100	

In selecting seed corn, the ears should be of uniform size, shape, color and indentation. A uniform product is the result of good selection and breeding, so that it is very important that the ears be uniform. The variety type should be strong. In Boone County White the characteristics of this variety should be well developed. This is one of the most important points connected with the study of seed corn.

The shape of the ears should be cylindrical. This cylindrical shape carried from the butt to the tip of the ear means an even, regular, deep kernel, resulting in a large per cent. of corn to cob. In tapering ears the kernels become irregular at the tip, some of the rows are lost, and the proportion of corn to cob becomes small. The rows of kernels should run parallel with the cob, straight and regular. If some of the kernels are not filled out, the adjoining kernels swell out into irregular shapes in an effort to occupy all of the space. In shelling the ears for seed, the irregular kernels on the butts and tips of the ears should be shelled off and discarded.

In a yellow corn the cob should be a deep red, and if a white corn the cob should be pure white. In the present standard varieties the color has not been given particular attention and is frequently not pure. This mixing of color indicated mixing of varieties, which is injurious to the development of improved varieties. Mixture between white and yellow varieties is indicated by a white cap in the yellow ears, and a yellowish cast to the flinty portion of the kernel in the white ear.

The ear should be sound and firm; this indicates that the ear has fully matured and dried out in the season where it was grown. If the ear is loose, the kernels shrivelled, it indicates that the ear is chaffy and has not fully matured under the conditions where it was grown. The tips should be filled with regular rows of kernels, so that no point of the cob projects beyond the kernels of corn. Poorly-filled-out ears indicate a small proportion of corn to cob and poor selection. By selecting well-filled-out ears the maturity of the different parts of the ear is brought to approximately the same season, so that the pollen produced by a variety will be sufficient to supply the entire ear on all the stalks in the field.

The butt of the ear should be filled out about the shank, so that a medium sized shank will be produced. It has been possible to make the kernels in the butt fill out to such an extent that the shank has been crowded so small that it will not support the ear on the stalk. On the other hand, a big, poorly filled out butt is usually accompanied by a large, coarse shank, difficult to break in husking and with an unusual amount of husk in proportion to the size of the ear. In such ears fungus diseases, as dry rot, frequently destroy the ear of corn.

The kernels should be of the same size, shape and color, and should be of the type of the variety. The uniformity of kernels enables the grower to secure an even stand, from the fact that the planter will drop a regular number of kernels. To study kernels, take out two of the kernels from about one-third the distance from the butt to the tip, and lay them beside the ear for close examination. The best shape of kernel is that of wedge. This shape will permit of the largest number of rows of kernels on cob. This shape has been developed as the result of breeding, and makes it possible for ears to have from twenty to twenty-four rows of kernels, resulting in a large per cent. of corn to cob.

By space between rows is meant the furrow between the tops of the rows of kernels and the space between the tips of the kernel at the cob. It indicates a reversion to the original shallow kernel type of corn, which is unprofitable to the present-day corn grower. There should be no furrows or space, and with the improved types of kernels there is no space lost on the ears. The length will vary with the variety. In general, a good ear of corn is between ten and

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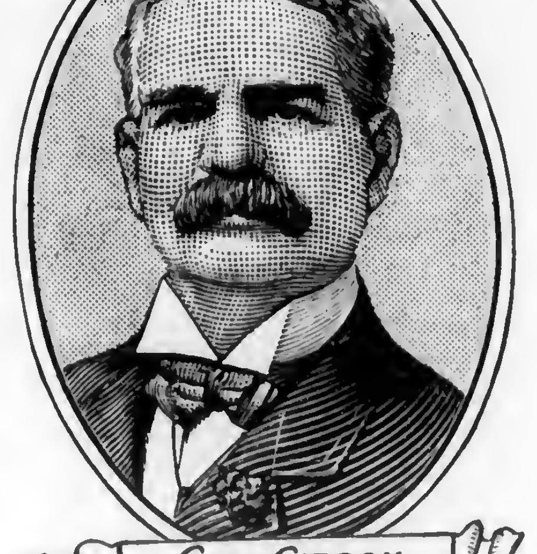
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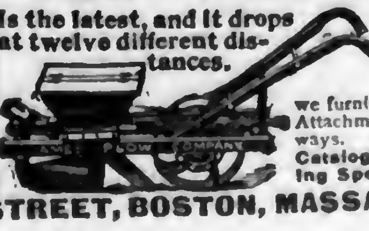

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eleven inches in length. Measure the length from the extreme butt to tip. The circumference will vary with the variety. It should be measured at about one-third the distance from butt to tip of ear. In ordinary corn, seven and one-half to eight inches is the circumference proportional to the ordinary length of ear. The corn grower produces the corn for the actual amount of shelled corn produced. With the rough, deep-kernel type, with a large number of rows of kernels on the ear, all available space being taken up with corn, the per cent. is greatest; hence such corn is the most profitable to grow. To find per cent. weigh the ear, shell the corn, and weigh the shelled corn. Divide the weight of the shelled corn by the total weight of ear, and the result will be the per cent. of shelled corn. This per cent. will vary with the variety, but in general it is about eighty-eight per cent. A large enough cob to support the rows of corn is needed, and this per cent. of corn represents about the proportion which will give the best results.

The composition of the corn kernel is of great importance to the feeders, stockmen and glucose factories. If the per cent. of protein can be increased by breeding, the corn becomes more valuable feed for live stock. It is brought nearer a balanced ration. The composition of the kernel can be varied by breeding through selection of seed, as proved by experiments of the Illinois Station since 1896. The variation in the crop is shown by the following table, quoted from the work of the Station. The table further shows that the proportion of oil may be increased at the will of the breeder. This will be of tremendous importance to the glucose factories:

	Protein in seed	Protein in crop	Oil in seed	Oil in crop
1896				
1897	12.54	10.92	5.33	4.70
1898	12.49	11.10	5.20	4.73
1899	13.06	11.05	6.15	5.15
1900	13.74	11.46	6.30	5.64
1901	14.77	12.32	6.77	6.12

The analysis of corn, showing average composition, is as follows:

Ash	1.43
Fiber	2.66
Oil	4.70
Protein	10.91
Carbohydrates	80.30

The composition of the kernel may be determined in part by simple mechanical examination. The proportion of hard, flinty part of kernel to soft starch at the top of the kernel and under the germ indicates per cent. of protein and starch in the kernel. The size of the germ indicates the approximate proportion of oil and protein. In selecting seed, it is a good plan to select ears having kernels with good sized "chit" or germ. The development of milk-producing qualities in the dairy breeds, or the per cent. of sugar in the sugar beet indicates what may be accomplished by corn selection.

The third important feature in the production of a corn crop is the culture; that is, the preparing of seed bed, kind of planting and cultivation. The preparation of the seed bed should be of such a nature as to furnish the requirements for germination of the seed corn; moisture, warmth and air. The depth and time of plowing, the floating, disking and harrowing of the seed bed, must vary with the soil and climate.

In planting corn, the distance apart of the rows and hills in the row is important. The general tendency is to bring the hills closer together and plant fewer kernels in the hill. Ten years ago the ordinary width planter was at least 3 feet 10 inches, and varied to as wide as 4 feet 4 inches. Today the most popular width planted is 3 feet 6 inches, varying to as narrow as 3 feet 2 inches. To show the reason for this bringing together of the rows, a 3-foot-8-inch planter will plant 3,240 hills in an acre. A 3-foot-6-inch planter, just two inches closer together, will plant 3,556 hills per acre, a gain of 316 hills. If these hills contain two well developed ears, this would mean a gain of about nine bushels per acre.

With improved seed it is not necessary to plant a large number of kernels in the hill. The latest improved planters are so arranged that, if set to drop two kernels in a hill, about ninety per cent. of the hills will be found to contain two kernels. With improved seed corn at least ninety-seven per cent. of the kernels will produce stalks, so that if two kernels are put in a hill, we are certain of securing two stalks. As the seed corn becomes more and more improved we can depend on every stalk producing an ear. When this condition is secured, two stalks in the hill will produce as large yield per acre as the soil can yield in a season.

In a new country, the usual practice is to drill corn. With few noxious weeds, with abundant soil fertility, the farmer was able to put in more stalks in an acre than would be possible in hilled corn, and the results were generally satisfactory. However, as the most destructive and harmful weeds spread over the corn belt, it was found to be difficult to get rid of them in drilled corn. As the excessive fertility was drained out of the soil by continual cropping, the large number of stalks became detrimental; so that the tendency is away from drilling back to the old plan of planting in hills.

Many farmers contend that by stringing out the kernels in the row of drilled corn, the stalk will produce better ears than in the hills. With the idea of trying to ascertain the facts, the Illinois Station carried on a series of experiments for several years. The experiment was so arranged that an equal amount of ground was given to drilled corn and hilled corn. The same number of stalks in the hill were strung out in the row of drilled corn. The corn was all thinned after planting, so that we secured an equal number of stalks in the drilled field as in the hilled field. The fields were kept free from weeds, and the same cultivation given in both cases. The experiment was repeated with different soils, varieties of corn, and seasons. As a result, we found, in figuring up the average yields, there was less than a bushel difference in the yields of the drilled and hilled fields.

The depth of planting is another question which varies with the soil condition. Corn can be planted deeper in a sandy soil, which drains out readily in the spring and warms up quickly, than in the heavier clay soil. The corn should be planted deep enough to secure sufficient moisture for the best germination, but not so deep that it will be placed in a cold, wet soil, where the kernel is liable to rot and decay, and, in any event, to cause protracted germination, which is injurious to the plant. No matter what depth the seed is planted, the roots branch out at about a constant distance from the surface. In the ordinary prairie loam this distance is between two and three inches. If the kernel is set down lower than this point it sends out a root system, which develops a tube-like structure, reaching to within two or three inches of the surface. At this point the real root system branches out, the stem of the plant is sent to the air, and the first root system decays and is lost. Such a condition must result disastrously to the young plants, and reduce the yield of the crop. The cultivation of the corn crop must depend upon the condition of seasons, soil, and the amount of weeds in the field. The cultivation of the crop is for the purpose of destroying weeds, conserving soil moisture, and aerating the soil. The weediness of the field will depend upon the work done on the seed bed. If the seed bed has been properly handled preparatory to planting, most of the weeds will have been destroyed, so that the principal object of cultivation is that of conserving the soil moisture. At the Wisconsin Experiment Station, it has been found that it requires about 310 pounds of water to produce a single pound of dry matter. It does not seem possible that such an enormous quantity of moisture can be secured by the corn plants during the growing season; and more important than all, this moisture in most part is used during June, July and August, the months of least rainfall in the year.

The Illinois Station conducted exhaustive tests of the comparative amount of moisture consumed by the different methods of cultivation. Two things were found to be true: First, that deep cultivation conserves soil moisture; and, second, that frequent cultivation conserves the moisture most effectively of all kinds of plans for cultivation. It was found that in the deep cultivations, despite the excess of moisture, the yield was very low, compared with shallow culture. To find the cause of this an extensive series of experiments with the pruning or cutting off the root of corn plant were conducted.

In this root-pruning experiment a field of corn was selected, and one row was root pruned two inches deep. This root-pruning was done with a broad, sharp spade. The spade was set down about six inches from the stalk of corn in the hill on every side of the hill. The whole field was cultivated with a weeder, and all weeds not removed in this way were cut out by hand. This was done so that the rows of corn would receive equal cultivation and be under like conditions. The pruning was done three times in the season, at about the ordinary times of cultivation. The second row was not pruned, and the third row was pruned four inches deep. The fourth row was not pruned, and the fifth row was pruned six inches deep. This was repeated until a large field was treated in this manner. The resulting yields were as follows, for three seasons:

Not pruned	62 bu. per acre.
Pruned 2 inches deep	60 bu. per acre.
Pruned 4 inches deep	45 bu. per acre.
Pruned 6 inches deep	30 bu. per acre.

The best results of experiments and from practical experience are to the effect that continued cultivation, keeping a loose mulch on the surface of the soil, gives the best results. The general practice coming into vogue among the most progressive and successful corn growers is, after the corn reaches a height to interfere in cultivating with the ordinary two-horse cultivator, to use a single horse with a five-tooth harrow or drag, and cultivate between the rows of corn during the setting of the ears on the stalks. The yields per acre of 100 bushels have been secured by this plan, and experience has proven it to be a practical and successful plan on a large scale. Of course, if there is plenty of rainfall, such precaution is not necessary. A test of a few of the different methods of cultivation in use at present resulted in bushels per acre as follows:

Weeds allowed to grow	58
Weeds cut out with hoe, and a loose mulch made with hoe, "frequent cultivation"	96
2-inches-deep cultivation, small shovels	90
4-iches-deep cultivation, small shovels	91
6-inches-deep cultivation, large shovels	87
6-inches-deep cultivation, small shovels	84
Golpher or blade cultivation	88
Deep early and shallow late	85
Shallow early and deep late	89
Mulch with grass	82

◆

The Best Book that has come to our notice is the Veterinary Obstetrical Compendium, written by Wales E Van Ame, General Manager of The Live Stock Proprietary Remedy Co., of Fort Wayne, Ind. It is a book that every farmer should own, as it treats exclusively on the delivery of young animals, diseases of the generative organs of the parent, sterility in both the male and female animals, abortion, etc., and the care and treatment of the mother and her progeny before, during, and after delivery, with full treatment and medical receipts required for the successful treatment of all the diseases of the mare, cow, ewe, sow, bitch, and cat mentioned in the Compendium. A book that is well worth $3.50 to the farmer and all breeders of live stock. Surely the Live Stock Proprietary Remedy Co. are progressive people, when they publish this valuable work, handsomely bound in vellum cloth, written in good but plain language, making it easily understood by the reader, for the exceedingly low price of $1, postpaid. The Veterinary Obstetrical Compendium contains over 70 true-to-life illustrations, and about 250 pages of the best scientific and practical information for the breeder of domesticated animals.

In conversation with Mr. Van Ame a few days ago, he informed us, that his company would only issue 50,000 copies to be distributed direct to the farmers, as his company positively loses money on every book which is sold for the small sum of $1; and after the 50,000 copies have been distributed, the book will be sold for $3.50 in the regular way through the dealers and by agents. Therefore should you desire this complete work, we would suggest your acquiring one before the entire edition is sold, as Mr. Van Ame informs us, orders are coming in very rapidly from all parts of the United States and Canada, which is conclusive evidence that the opportunity to secure one of these valuable treatises at so small an outlay as $1, is appreciated by the farmer who is anxious to improve his knowledge in the above difficulties.

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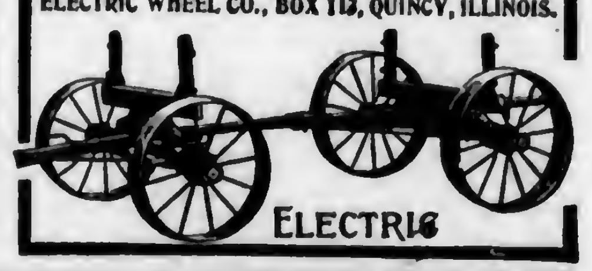

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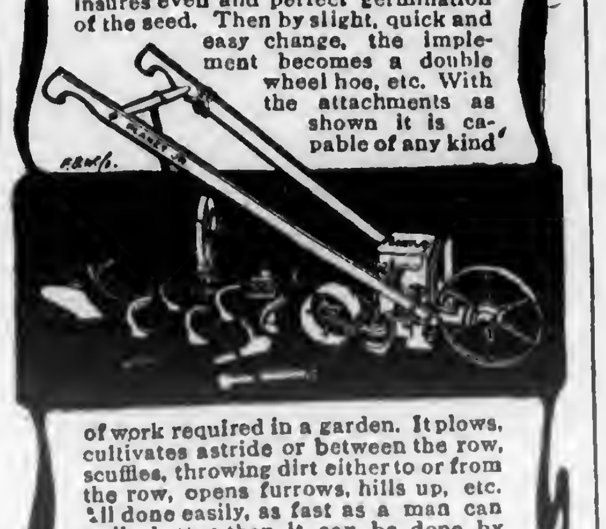

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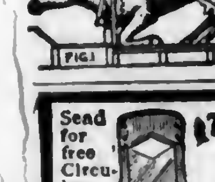

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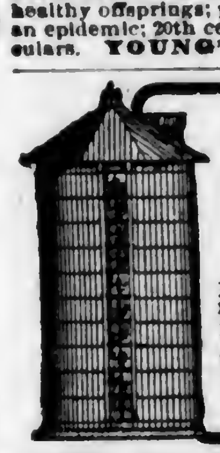

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Chapinville, Mass., Nov. 11 1901.

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Stock Queries.

A Good Ration for Young Pigs.—Top Dressing for Clover.—A. Z., Tennessee.—"What is a good ration for young pigs in winter, when they are closely confined. What is a good fertilizer for crimson clover?" Young pigs will eat, with profit, two and a quarter pounds of grain food daily for a live weight of 38 pounds; three and a half pounds a day for a weight of 78 pounds; four and three-quarters pounds for a weight of 125 pounds. Of this weight six pounds of skimmed milk may be estimated as equivalent to one pound of grain. The grain food may be bran and corn meal. Oats and corn meal in equal parts, with the skimmed milk in the proportion named, have been found to be the most profitable food for the first growth up to 200 pounds. For a fertilizer for crimson clover use the superphosphate of lime—a hundred pounds to the acre—and if the soil is quite poor you may add fifty pounds of nitrate of soda. Thorough culture by plowing and harrowing, is essential to success in clover growing.

Rape for Sheep and Swine.—W. W. H., W. Va.—"Is Essex rape good for sheep, and swine as well, during the summer? What kind of small grains will make the best substitute for hay? I have some wet land, can it be drained by ditches filled in with loose rock?" Essex rape is the best of all similar kinds of green feed for sheep, and swine as well. One acre of it in full growth has fed thirty sheep, or as many swine, through the whole of the fall, and left the sheep in the best condition for the wintering; while the swine have been in excellent condition for slaughter or market without any further feeding. It is a most excellent food for fattening, as well as making good growth of lambs and swine as well. Your location—West Virginia—is very well adapted for the growth and feeding of this crop. Three pounds of seed should be sown to the acre, and a second crop may be grown for late feeding among the standing corn after the second cultivation. When the corn is gathered the rape is in good condition for the late feeding. When sown early in the spring it will furnish food the whole summer, and again early the next spring before the land need be plowed, as it does not seed until the summer of the second year. Oats and peas will make the most feed of the best quality as a substitute for hay. Indeed it will make the best kind and the largest quantity of hay for any purpose, feeding horses or cows alike. The seed should be sown rather thickly, a bushel and a half of the large kind of peas, and two and a half bushels of oats to the acre. Cut when in full blossom, cure thoroughly and store it under cover. You may drain land successfully with ditches filled in with loose rocks, putting the largest at the bottom, and the small and flat stones on the top. In filling, see that the earth does not sift down through the stones, and never gets hollow on the top so that surface water will settle down. It is the best plan to lay a row of stones at each side at the bottom and cover these with flat stones to keep the earth or small stones on top from falling in the bottom and choking the water channel. If this work is done with care it will be indestructible.

H. STEWART.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 1016 Davis St., Evanston, Ill., who has editorial charge of this department. All inquiries requiring answer by mail must be accompanied by a fee of $1 each.

Debility.—We bought a 2-year-old colt about a year ago, fat and sleek. In the spring we turned him on a good clover field but soon noticed he was losing flesh. It was not long, till he showed weakness in hind legs, something like stringhalt or cramp. On examination found he had foul sheath. We washed him with warm water and soap two or three times, still be did no good, so after bringing him in from pasture in fall soon found he was a stump sucker, or cribber. STILES BROS.

Lexic, Tenn.

The indigestion and lack of health due to cribbing and wind-sucking would be quite sufficient to cause wobbling gait from weakness, but at the same time it is probable that the colt is afflicted with osteo-porosis (big head). This is very often indicated by the bone of under jaw being thicker than that of the other jaw. It is associated with weakess of the hind parts, lack of thrift and often mysterious lameness. Cut the hay fine for this colt, mix with it a pint of corn meal and two pints of coarse wheat bran, then mix with it one quart of New Orleans molasses and one quart of water. Make the mixture of these foods thorough. Let this feed form the breakfast meal, then feed whole oats at noon, the molasses feed again at night, and follow it with a small feed of long hay. About five pounds of cut hay should be used night and morning with the molasses, etc. We wish you to try this plan and very kindly report results in, say two months. Colt should have a box stall from which everything is removed upon which the teeth could be set to practice the habits of cribbing and wind-sucking. Also buckle a strap tightly around the neck just back of ears if absolutely necessary to prevent the habit. The feeding advised is for a horse of 1,000 pounds or over. Reduce amounts if he weighs less than that figure.

Blood-Colored Urine.—I have a mule that passes blood, or bloody urine at intervals of 5 to 10 days; is more or less stupid during these periods. I have treated her for indigestion, which I think she suffered with. B. F. JOHNSON.

Arcadia, Tex.

As coffee-colored urine is the usual symptom of azoturit, which in aggravated form causes paralysis of the hind quarters, and is invariably associated with the heavy feeding of oats in the absence of exercise, it may be that your mule is affected in this way. If this is the history of the case it would be necessary to merely reduce the oat feed and increase the amount of exercise, taking care to give it every day, rain or shine. If there is no such history to this case we fear that the bloody urine may be due to the presence of a stone or gravel in the bladder, or a polypus in the vagina. Have an examination made for these troubles and if they are not found give half an ounce of lanmetto three times daily, feed soft food, wet all hay with flaxseed tea and substitute this tea for ordinary water. Write again later, after an examination has been made and should this treatment not prove curative.

Urinary Difficulty.—I have a 4-year-old gelding that has a frequent desire to pass scanty urine, and, I think has urinary trouble. A SUBSCRIBER.

Shimerville, Pa.

In our experience the presence of some irritant in the feed is much more apt to be the cause of this urinary difficulty than the fact of teething. The most common cause is mouldy hay or some similar condition of fodder or grain. Change food and make sure that hay is first-class in every respect. Also substitute rain water or soft water for the present drinking water if it happens to be hard from the presence of lime, and feed carrots if you can get them. If colt has a very long, coarse coat of hair, clip him. See that stable is kept clean and well ventilated and that he is given plenty of exercise daily.

Pin Worms.—I have a colt about 20 months old that has pin worms. They are fully one-half inch long, and lots of them pass in the manure. D. M. STOWITS.

Horse Heads, N. Y.

If the worms are in rectum alone it would be well to give rectal injections of tobacco tea and soapy warm water three times a week. At same time we presume that the worms are intestinal, and in that case it would be well to give internal treatment, such as dried sulphate of iron, a half drachm night and morning. Raw potatoes will also be found excellent in ridding horses of worms. See to it that the hay fed does not come from low, wet land. Also that the colt does not take water from trough or pond used by adult horses. Best water from a clean pail. For the pregnant mares all that can be done to insure easy parturition will be to give plenty of light work or exercise up to day of foaling, and at same time keep the bowels open by the feeding of bran and roots, such as carrots, or some silage. The flaxseed meal will not hurt unless fed in large quantities. Combine it with sound oats and good hay. The bran mashes should be given once daily, at night, during the last six weeks of pregnancy, unless mares are upon green grass, when the mashes would be unnecessary. Clover hay is dangerous if mouldy or otherwise tainted. Rye chop is all right as a food if fed as a small part of the ration and

combined with corn meal or other starchy food. It is a strong protein food similar to oats and bran, so that the mixture you propose would lack starch, and that could be added in the form of corn or corn meal. Rye suddenly fed to horses is sure to set up indigestion, so that the animals must be gradually accustomed to it. In the feeding of pigs it acts well when combined with boiled potatoes, which supply the necessary starch.

Scratches.— have a mare 12 years old. Has had the scratches for about a year. F. V. PHELONE.

Suffield, Conn.

The condition you term scratches is likely "grease," and this is certainly the case if there is a bad odor and discharge from the affected skin. Where grease is present in heavy draft animals there is need of more exercise and less grain, and we usually recommend stopping the grain ration entirely for some time and substituting bran mashes, carrots and hay or fodder. If there is a discharge poultice with hot flaxseed meal right along until discharge ceases. In each poultice mix two tablespoonfuls of powdered wood charcoal and two teaspoonfuls of Chloro-Naptholeum. Renew the poultices night and morning. Give half an ounce of Fowler's solution of arsenic twice daily. When poultices are discontinued wet the leg often with a solution of two ounces each of sulphate of zinc and glycerine in a quart of soft water. The arsenic will tend to reduce the swelling of the hind leg and when the animal is about well stop the arsenic slowly; not suddenly. If there is no discharge from the affected skin, poultice for two days to cleanse parts, then apply an ointment of two drachms of spirits of camphor and half an ounce of flowers of sulphur rubbed up in an ounce of lard. Apply three times daily. Do not wash leg in cold weather, and when washed at any time of the year always rub dry with sawdust. See that mare is kept in a roomy, clean, well ventilated box stall when not at work.

Founder.—I have a horse ten years old that was out in a cold rain last fall. The next morning she was so stiff she could not walk. I bought her about three months ago and commenced driving her; she began to improve at once so much that I thought she was as good as well, but of late the bottom of her feet began to bulge and are very sore. LEVI BERRY.

Prentiss.

The mare was so badly foundered that she has now "dropped soles" from descent of the pedal bones, which press upon the soles at the point of the frog where the horn will be found thin and cracked. The condition is incurable, but the mare may be used for slow work on soft land if you shoe with wide-webbed bar shoes over a leather sole on oakum and tar filling. Also clip hair from coronets of both feet and blister well twice a month with cerate of cantharides, two ounces; biniodide of mercury, two drachms; mix. Rub it in for 15 minutes by the watch; wash off in three days, then apply daily. Had the mare received proper treatment when attacked by founder dropped soles might have been prevented.

Crooked Tail.—I have a fine colt two years old and he carries his tail straight when walking quietly, but at any excitement he turns it considerably to the left. It seems to me that the muscles on the left are the strongest. JOHN A. MARTIN.

East Bend, N. C.

We take it for granted that you mean the tail of this colt is crooked, although you omit one word which would afford the information required on this point. If it is the tail then an operation would be needed. The curvator muscle on the inside of the curve would have to be severed in two or three places, then bring the tail tightly around to the other side and tie it in that position, or place it in a splint. The operation is performed by inserting a small bistoury straight down into the flesh of the tail to one side of the bones until its point can be felt against the fingers, but not penetrating the skin on the hair-covered side of tail. A probe-pointed bistoury is next introduced and used to cut everything through, cutting away from the bones and inside of the skin. The small wounds are left then to be dressed with iodoform one part, boracic acid six parts and the tail done up in cotton batting for twenty-four hours. Afterwards keep the wound clean with carbolized warm water and then dust with the powder but do not again cover with cotton.

Injured Teat.—My Jersey heifer, with first calf, now three months old, cut one of her front teats to the hollow, on barbed wire. Milk would come through cut when milking, but have that healed up nicely on outside. Teat stops up from one milking to the other so that I cannot get a drop until I soak teat in warm water or pull scab off of end; then it comes out in very small stream and spurts every way. There is no swelling to amount to anything, and it is not unreasonably sore. Stops up from cut to bottom, and is very hard from cut down. Has been cut ten days. L. T. HALL.

Cleveland, Tenn.

Procure a milking tube and use to extract milk instead of attempting to milk in ordinary way. After milking apply benzoated oxide of zinc ointment to the sore. Wash part before milking. If this treatment does not cure wound and remove obstruction or stricture from end of teat it will be necessary to buy a teat bistoury, by means of which to slit inside of end of teat in four different directions, after which operation, which is a simple one, a lead dilator should be inserted daily to keep duct open and distended until healed. Write again later if more advice is required or above is not entirely clear to you.

Frost Bite.—I have a young hog that was fattening with cattle, feeding cattle on corn and fodder. This hog began, about six weeks ago, to get sore on back; hide came off and ears wrinkled as if frozen; one ear dropped off. SAMUEL TURNER.

Newtonia, Mo.

As hog has remained healthy and retained appetite, we conclude that loss of ear and skin are due to freezing. We have seen such things follow frost bite, but at same time they may be due to skin disease or even sleeping in wet, dirty places. We do not consider it any contagious disease.

Influenza.—1. We have just killed a calf about six months old that has been coughing considerably, which I thought might be tuberculosis. There seemed to have been nothing wrong with its lungs, but we found quite a number of lumps about the size of a castor bean between the hide and flesh all over the main part of the body. 2. We also have a number of sick horses. We think it is distemper. If so, do they get it the second time? At first the horses have a throttling in the upper part of their nostrils; a little later they breathe like a thick-winded horse, then they become weak and stagger and almost fall over; next they become quite stiff in the front parts, shoulders, neck and legs and hang their heads very low. It seems impossible for them to drink or swallow at times, and run terribly at the nose. 3. We also have a herd of calves that have a white scab among them, and is rapidly spreading. UNLAND BROS.

Arlington, Neb.

1. We are unable from your description to tell what was the matter with the calf and the specimens sent do not make the matter any plainer. From the specimens we suspect that there are warble grubs in the skin, but they appear more like dry clots of blood. You might write again and state what is the appearance of these bunches when fresh. Also did you find the lining of the intestines covered with blood-red spots? There is a disease known as hemorrhagic septicaemia, which affects cattle and in which these red spots appear upon the mucous linings of the intestines, etc. 2. The horses are affected with influenza in the chief part, and those that have abscesses under the jaws have strangles, or possibly another form of influenza. It would be wise to keep unaffected horses strictly away from places that have been occupied by sick horses. The barns in which sick horses have been kept should be cleansed thoroughly, then disinfected by burning 50 ounces of flowers of sulphur for 24 hours to each 1,000 cubic feet of space in stable. Then use fresh made whitewash freely and repeat the whitewashing every two or three weeks while the disease lasts. Chloro-Naptholeum will serve well as a disinfectant. Use it in 1-50 strength. Feed the horses well on oats and bran. Allow them all the pure cold water they want to drink. Give sick ones two drachms of saltpetre three times daily in water from bottle, and in each dose mix half a drachm of fluid extract of gentian root. Poultice swollen throats with hot flaxseed meal, renewing the poultices night and morning. Open abscess when soft, then syringe out with 1-100 solution of the disinfectant. 3. Calves have ringworm. Cleanse and scrape parts, then apply iodine ointment every three days.

Difficulty in Breathing.—I have a calf that is now about a year old. It has always been very short-winded. The slightest exertion makes it pant as if it would die. What is the matter? ANGUS FRAZIER.

Pickle, Tenn.

We fear that little can be done for the calf, as the condition has been present since birth. It may be due to some congenital malformation of the throat (larynx) or lung condition that cannot be cured. If you find, on examination, that the throat is enlarged and painful when squeezed, it might help to blister from ear to ear with cerate of cantharides, one ounce; biniodide of mercury, one drachm; mix. Such cases are sometimes due to tuberculosis affecting the gland of the throat just back of ears. Write again when you have made an examination or try to give full particulars.

Lameness.—I have a horse 10 years old; has been lame in left hind leg since last May. At first he would limp when he started, then would go all right. Now he is lame all the time. He stands on his toe as with a spavin, but there is no lump on his leg; can press on him from the rump down to his foot and he doesn't flinch. D. S. MILLER.

Bishop, Tenn.

The symptoms are those of spavin, and it is quite possible for the lameness to be present yet no enlargement appear upon the hock joint. This spavin may be occult (hidden), and such spavins are most difficult to cure, the deposit of bone being among the small bones of the hock joint, not upon their exterior, as in visible bone spavin. If he has a spavin he will become intensely lame when the hind foot of affected leg is held up close to the stifle for a few minutes, then dropped and the horse at once made to trot. In such lameness the only hope of recovery would be to have the hock joint fired and blistered, and then give two months absolute rest in a narrow stall where he is to be tied up so that he cannot lie down nor move backwards or forwards. At the same time, as you are feeding millet hay, we have to remind you that such food is sometimes the cause of a peculiar form of rheumatism, affecting, mainly, the hock joints. This being the case, we would advise you to stop feeding millet hay and note whether there is improvement. If there is none in two months, then have the joint fired by a competent veterinarian.

◆

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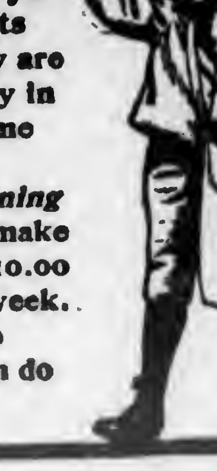

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THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

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Notes from a Carolina Garden.

It is the fifth of March. The first sowing of peas are now well up and being worked out, and the later sowings are cracking the soil. Another and final sowing will now be made. We are testing a number of new peas this season and hope to be able to give the readers of the P. F. some idea of our opinion in regard to the new ones, while we are depending on the tried varieties for our table. The Prosperity, or Gradus is now so well known that we plant it with confidence, and esteem it one of the best. Our main reliance is the Premium Gem, for it has never failed us.

Today we dug the remainder of the Chinese Winter radishes. The last freeze nipped many of them and the remainder are getting turnipy in taste and no longer wanted on the table. But after eating and selling all winter from a bed about 10x40 feet, we have dug and thrown on a compost pile in the chicken yard, about twenty bushels of the big, rosy radishes. The hens will doubtless enjoy picking them over. The bed will now be heavily manured and set at once in plants of Maule's Improved Hanson lettuce to succeed the lettuce in the frames. The plants for this setting have been grown in the cold frames and are in fine condition for transplanting. We will set them 8x8 inches apart and expect to make a good crop in April. The last of the frame lettuce will be cut during this month, and the frames, with the sashes stored away, will be filled with flowers during the summer, mainly the Bonfire Salvia, to make them look gay through the summer. Then during the summer we will be getting together a big lot of compost of sods, manure and leaf mold with which to fill the frames next fall for the lettuce crop. Our experience of the present season has taught us a new lesson we should have known before, that it is not safe to plant the same old soil in lettuce again, even if it is heavily fertilized. The old soil will be entirely taken out and the frames will be sprayed with a solution of formalin to destroy any remaining spores of the rot. Then we will abandon the effort to grow two lettuce crops in the frames. We can depend on the outdoor beds for lettuce till Christmas and will not plant the frames till December, or possibly in November, so as to have the crop come on in February and March, and will in the mean time grow a new set of plants to set outside in early March. April is as late as we can hope for good lettuce in this climate, and November is about as early as we can get it outside in the fall, and if we have a constant supply of lettuce from November till last of April we should be satisfied. For the market, we will have to continue to grow the Big Boston, as the market demands a headed lettuce, though the Hanson will take its place finely in the spring. For family use in winter we greatly prefer the Grand Rapids. It makes immense bunches of fine, crisp lettuce, but does not head like the Big Boston. We have some other varieties on trial. One of these is the small, compact-growing sort known as All the Year Round. It is very similar to the Boston Market, and is always the first to head, and for family use, where a heading lettuce is wanted, we like it very much, as it can be planted in the frames 6x6 inches and have plenty of room, and while the white heads are as large as those of the Big Boston, it does not look so large for the market.

We have several varieties of beets above the ground, some of them entirely new, but with these, too, we are depending on the Egyptian and Eclipse for our table supply mainly. Instead of setting the Wakefield cabbage plants last fall, we wintered them in the frames and have them now set in the garden and worked over for the first time. While fall-set plants winter over successfully far north of this, we find that here they are very uncertain, as the warm spells in winter get them to growing so tender that the cold snap we are certain to have about the middle of February is almost certain to destroy them. Now that this spell is past and spring open we no longer fear for the plants They will perhaps be a little later than if set in the fall, but we will get the cabbages at any rate. The fall sown spinach, from which we have been cutting all winter, has now had its final working out, and is dressed with nitrate of soda. There will be some good cutting yet before the warm weather starts it to seed. We never sow any spring spinach, as it bolts to seed so quickly that it is hardly worth the growing.

Our Queen onions, too, have now had the earth pulled away from them, and will be rapidly bunched for the market, as they have been of marketable size for some time past. The Prizetakers are well up in the frames and by the latter part of the month will be ready to transplant to the open ground to succeed the onions grown from sets, and seed of the Southport White Globe will now be sown to make ripe onions for the fall. Early in April we will sow very thickly, seed of the Queen onion, to make sets for next fall. Some of these may get too large for the best sets, but they will come in finely in the fall for pickling purposes.

The strawberry beds are now being worked out and manured with rough, strawy manure. The rains will wash the manure down and leave the straw clean to protect the fruit. The young strawberry plantation set in December is starting to grow and will be heavily fertilized with commercial fertilizers and kept clean during the summer, but no fruit allowed to form. If the plants had been set in September and made a good fall growth, a partial crop could have been had, but September is a very uncertain time to set plants here on account of dry weather, and we prefer to set in November and December when they are certain to live.

The ground in the flower garden is now being prepared for setting the Groff gladiolus, of which we have a thousand or so of all sizes. These are a great improvement on the gladiolus we have been growing and are remarkably fine in flowers and of a great variety of color and markings. The White Italian hyacinths are blooming, as also are the various narcissus, and with the early flowering shrubbery our tables are well supplied with vases of flowers. The tea roses are making their early red shoots, and ere long the buds will be showing all around. Fig trees have come through the winter in good shape, and the prospect is good for fruit. Camelias are swelling their flower buds a little later than usual, as we generally have them in bloom by the first of March. The Chinese azaleas, too, show signs of swelling, and have an abundance of buds. I was surprised to see several bunches of green fruit on the Japanese Medlar. This plant, while perfectly evergreen and hardy here, seldom fruits as its blossoms are apt to be killed, since it blooms about Christmas. But the mild winter has let a few clusters come through, and we hope they may ripen. We have ripened them in years gone by, in Maryland, in the greenhouse. Our big Marechal Niel bushes came through the cold snap with only the loss of some leaves. The canes are all right and promise a heavy bloom. In pruning the climbing roses of any sort we always try to keep the long canes intact and spur them like vines, and cut away the weak growth. In this way the early bloom is usually very fine.

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Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Creeping Plants for Graves.

Some time ago a correspondent of the P. F., Mrs. E. A. Mills, referred to the pleasure she had experienced in planting on a grave the creeping White phlox, which she had seen recommended in our horticultural columns. It is a pleasure to know the plant gave her so much satisfaction. There is no doubt of its utility for the purpose. It grows close to the ground, is evergreen, creeps along, rooting as it grows, eventually completely covering the grave with a green surface. Early in spring it is so full of white flowers that not a bit of foliage can be seen. Those who might prefer it could use the pink-flowered one, or the lilac-flowered, for this phlox is represented in these and a few other shades of color. This creeping phlox grows wild in many parts of Pennsylvania. The writer has seen it flourishing at Gettysburg, and has a light pink colored one which he dug up near where Reynolds fell, a different shade from any he had seen before. The botanical name of this phlox is subulata.

While on the topic of plants for graves, a few more may be named. There is the sea pink Armeria Maritima, the Lamium Variegatum, several sedums and sempervivums. All these are close growing, and the armeria has pretty pink flowers in spring. Just what to plant on graves is a puzzle to many a one. Some prefer annual flowers, but where permanent ones are preferred, any one of those named would suit.

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Horticultural Queries.

Planting Strawberries. — Please give instructions how to plant strawberries; that is, the distance apart each way; also what varieties to plant in a cool climate, for market, and where to get them. J. C. JUDY.
Eglon, W. Va.

If you have in mind a few plants for home use 18 inches apart will do to place the plants. If for field culture, for marketing, double the distance. The sorts depend a good deal on locality. We would not like to be without Michel's Early, Gandy, Beder Wood, Brandywine, McKinley, Clyde and Sharpless. You can get them from any of the nurserymen advertising in the P. F. This is the season for planting.

Eucalyptus.—The eucalyptus squib turns out about as we thought it would. The writer was a resident of California a great many years, and the eucalyptus was grown there very largely; and while a great many varieties were grown, there was not one that would not be slightly injured during the coldest weather, which in California never is colder than 24 to 26 degrees.
STARK BROS. NURSERIES & ORCHARDS CO.
Louisiana, Mo.

A great string of nonsense appeared in the Saturday Post recently concerning the eucalyptus tree. It was to revolutionize the timber tree question of this country, etc. Almost as well recommend the geranium, for it will stand as much freezing as the eucalyptus. The wonder is that the editor of the Post knew so little of the geographical limits of trees as to permit such rubbish to pass without comment.

Columbian Raspberry.—In your issue of Feb. 21st, in answer to M. W. Eller, you say, "The Columbian raspberry belongs to the section which is propagated by suckers, and not from tips." If you have such a Columbian it is different from what we have by that name. The Columbian we have, and that listed in all nursery catalogues I have seen, is a tip berry of the Shaffer type It is larger, more vigorous and more prolific than the Shaffer. The Cuthbert is all right in the North, but is worthless here. I do not believe any of the sucker raspberries are as good for the South as the tip berries. As to propagation, pinch off the shoots as they get about knee high and pinch the laterals when they are six or eight inches long, so as to get as many tips as possible to bury the latter part of the summer. I would have more hope of success with Columbian, Shaffer and Cardinal, all red, tip raspberries than any of the sucker varieties as far South as Mr. Eller is. J. N. HUDELSON.
Poplar Bluff, Mo.

This correspondent has my thanks for his correction. Yes, it belongs to the black cap section. But though a "black cap" the fruit is red, or purplish red, and not black. The hint on increasing the number of tips for layering by pinching off the tops is a valuable one, and readers will be glad to have it.

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Good in emergencies, the cough cure—Jayne's Expectorant.

POULTRY.

This department is under the editorial charge of A. F. Hunter. All letters, inquiries and requests should be addressed to him at the Practical Farmer office, P. O. Box 1317, Philadelphia.

As to Guinea Fowls.

Mr. E. W. Bon Durant, Bagdad, Ky., writes that Prof. Williams, of Tuskegee, Ala., is manifestly in error when he says that guinea fowls will not lay more than from five to seven eggs at one litter; evidently the error arose from grouping information about guinea fowls and pea fowls in the one letter. "The guinea fowl generally lays forty to sixty eggs in a year and occasionally attains a hundred eggs in a year. I have never known the pea fowl to lay less than two nor more than seven eggs, and it is true about the pea fowl feeding its young, just as wild birds do, by putting the food in the mouths of the young."

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Poultry Queries.

Kaffir Corn, Broom Corn, etc.—W. A. Tebow, Sacramento, Cal., writes: "1. What is the relative feeding value of Kaffir corn in comparison to wheat? Is broom corn seed suitable to feed chicks over six weeks old? How does broom corn compare with wheat in feeding value? 2. Will bacon rind, boiled thoroughly, chopped fine and mixed with the mash, form a suitable meat ration?" 1. No books or Station bulletins at hand give the feeding value of either Kaffir corn or broom corn, but Kaffir corn is said to have a feeding value closely approximating to that of sorghum seed, which ranks with wheat and corn about as nine to ten. Neither Kaffir nor broom corn is raised in sufficient quantity to be a quotable factor, and if you are thinking of raising either or both for feed, would think you would get more food value for your labor and land from either wheat or corn. 2. We do not know. It would have some value as a meat food, but you can hardly have bacon rind in considerable quantity, hence would rank it with kitchen waste and feed it with these wastes. If you keep quite a few hens you need a meat food, such as cut fresh bone, meat meal or beef scraps.

Another Defective Ration.—Mark H. Smith, Whitesburg, Tenn., writes: "I have a poultry house 12x30 feet, with partition. One part 20 feet and the other 10 feet. Lot 30x60 feet in connection with 10-foot partition, and lot 60x240 feet in connection with 20-foot room. Fine blue grass in lots. Fifty B. P. Rocks in 10-foot room and 100 in large room. I could give the 50 chickens all the room they want by opening the lot gate; they would then have access to an acre of rye and woodland and blue grass fields, but it seems that they don't care to go out in lots. I housed my chickens Dec. 12th, hens and pullets, pullets hatched in March and April. Best strains of B. P. Rocks. I have fed them, since housing, as follows: Two candy buckets of cut clover, first crop, steamed with dishwater and milk, about one gallon of milk and two of dishwater, rich with waste from the table; this brought to a boil and mixed with the clover in a large kettle, and about one and a half gallons wheat bran added, also a handful of salt; two-gallon kettle of turnips cooked twice a week and added to this mixed feed; also raw turnips given twice a week. Noon feed is 6 quarts of rye or wheat scattered in straw about 12 inches deep. Eight quarts of corn in the evening. One row 12x14 glass in south side of house, but have taken out one-fourth of the glass sections to give more air. Board just under the droppings board to feed mixed feed on; under this, straw on ground floor, which gives full space of house for scratching. I use two gallon buckets for water, filled with fresh water from the well in morning and emptied in the evening. Beat rock daily, all they want. All my chickens were fed wheat and corn through the summer and fall, but don't seem to be fat. I have had the B. P. Rocks for eight years, but have never been successful in getting eggs in winter. They begin laying the last of February and do well from that on till moulting time. Am I feeding too much, or not enough, or what is the trouble?" The difficulty is a defective (unbalanced) ration; a lack of animal food. You should add meat meal (such as Romaine's "B. B. & B.") to your ration, or a good beef scraps, or cut fresh bone. In the summer, when the fowls are running at large, they get many worms, bugs and insects; but when cold weather comes that animal food supply is cut off and you must make up the deficiency if you would get eggs in winter. The milk is some help, and the dishwater a little, but if soap is used in the dish washing the dishwater ought not to be used in the mash. Stop feeding rye and feed oats instead. Rye (in a raw state) is a very poor (innutritious) food and fowls won't lay on it. Study the article "Poultry Feeding; A Well Balanced Ration," in December 20th P. F.

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The Practical Farmer.

FOUNDED IN 1855
Published Weekly by The Farmer Co.
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PROF. W. F. MASSEY, Editor.

Philadelphia, March 21, 1903

THE last week in January the Editor of the P. F. had the pleasure of addressing the Pennsylvania Board of Agriculture at Harrisburg, on "The Southern Cow Pea and its Probable Place in the Agriculture of the Middle States." On the 21st, 22nd and 23rd of May next, he will attend the great conference of the farmers of East Tennessee, at the University of Tennessee, in Knoxville. This is the 28th annual assembly of the East Tennessee farmers at the University, and a great audience is expected. Our topic there will be "The Southern Cow Pea and its Place in the Agriculture of the South." We hope to meet a great many of the host of readers the P. F. has in Tennessee. The meeting promises to be an occasion of great interest, as these meetings have been in the past.

◆

A Good Appointment.

Hon. John Hamilton, who has made such an efficient Secretary of Agriculture in Pennsylvania, has now been appointed Farmers' Institute Expert in the Department of Agriculture in Washington. This is a new position, and Mr. Hamilton is the first to fill it, after a competitive civil service examination. Congratulations are due to Mr. Hamilton and the Department, one for getting the place and the other for getting so good a man to fill the place.

◆

Garden Implements.

A lady correspondent wants the Pool to discuss the question whether the hand garden cultivator can be worked by women. This is hardly a topic for discussion. Doubtless a muscular woman could handle one of these implements as easily as she could a hoe of good size and weight. But our opinion is that the man who expects his wife to cultivate the garden vegetables has no business having a wife. There is no sort of objection to a lady working about her flower beds as a means for exercise if she needs it, though most of them get all the exercise they need in the house, and many of them too much. But when it comes to a man's eating vegetables which his wife has planted and cultivated, I think he does not deserve to have any vegetables or wife either. The garden cultivators are good tools, but they are tools for men, and the growing of vegetables is the work for men. If a woman has to work in the garden we would suggest that the garden cultivator is a splendid tool for her to hold on to if she will hitch her husband in front to pull it by a rope.

◆

Home Mixing.

"C. R. K." tells the Country Gentleman that we are all wrong in advising farmers to buy materials and mix their own fertilizers. He says that there is no farmer living who can take the goods recommended and make as good an article as can be bought from a fertilizer manufacturer for the same money. This is doubtless so, but he can make as good a fertilizer as the manufacturer will charge him a great deal more money for. He says that a properly mixed fertilizer is worth $5 a ton more than rough shovelled together stuff mixed by a farmer without machinery. This is the staple argument of the manufacturers. Doubtless they will consider the machine mixed article worth $5 per ton more than the home mixed one, since they will charge that much for mixing, and the notion that a farmer, with a good barn floor and a sand screen and shovel cannot mix a fertilizer as well as any machine can, is all bosh. The Experiment Stations do it regularly and fertilizers mixed in this way will pass the scutiny of the chemist as well as those mixed by machinery. In fact, but for the extra labor in application, it would not matter if the materials were scattered on the soil separately and not mixed at all.

◆

The Evils of Single Cropping.

All over the cotton belt the common experience of thousands of farmers is that when spring opens, while they may have feed for stock and bacon for the family, they are penniless and are under the necessity for running store accounts for the whole season, and, of course, paying a big percentage for the privilege, or of giving a mortgage on the prospective cotton crop in order to get cash. A North Carolina farmer, writing in one of the home papers, favors the repeal of the 6 per cent. interest law, so that farmers can borrow money at a greater rate of interest. This farmer, writing in the Progressive Farmer, says that the only plan he can think of is to borrow money at a high rate of interest instead of running a store account. He says that this impecuniosity is the rule all over the cotton belt. Nothing so plainly shows the folly of a sole dependence of farmers on a single crop for all the money they need. Running a long store account or borrowing at high rates of interest result in the same thing. When the cotton is made, it belongs to the merchant or the money lender, and the farmer has to face the same problem for another year. And this will be the case just as long as they expect their cotton crop to pay for everything and even for the mules that cultivate it. The remedy, in our mind, is not to run a store account nor borrow money, except as a temporary means for getting into better shape. The true remedy is to farm so that there will be something to sell at other seasons. The great trouble in the cotton belt arises from the fact that the farmers are merely growing cotton and are neglecting live stock. As a thoughtful friend in South Carolina said some time back, "Our people are growing three bales of cotton for every steer they feed, while the Texas people, who grow the bulk of the cotton crop, feed three steers to every bale of cotton." The farmers in the Carolinas will never get on a cash basis until they realize that any system of cultivating the soil that does not include the growing of abundant forage crops and the feeding of live stock, is bad farming, no matter what the leading money crop may be. If a cotton farmer has grown pea hay and corn in abundance and has fed some cattle and sheep during the winter, he will have cash of his own in the spring, and when his cotton crop is made it will belong to him and not to the merchant or money lender. With no class of farmers is this hand-to-mouth cropping more common than among the negro farmers. At a conference of negro farmers in Raleigh, N. C., on the 28th of February, the Editor of the P. F. tried to show them that the only hope of the colored man is in the ownership of his home and the cultivation of the soil in a more intensive manner, including the feeding of stock. A large part of the cotton cropping on shares in the South is done by negro tenants who have nothing but their own labor and a mule. The first thing the cropper does is to make a mortgage of his prospective share of the crop to get food for his family and his mule, and when the crop is made, if it is a good one, he can possibly pay out if the price is good, and then he must live somehow or other till another cropping season. There is no crop grown which carries such a load of expense as the cotton crop, as it is the only thing these farmers can raise money on, and they raise it at a percentage that would scare a broker into a cramp. Now, the true remedy is in farming and feeding stock to have money at the time when the cotton crop needs it, and the cotton farmer will never get on a cash basis till he goes to farming and quits merely planting cotton.

◆

The Farmer's Share.

The published statistics show that when the immense products of the farms of America are divided up among the producers there is about $180 for each family on the farms. This would seem to show that there is not so much of prosperity as is thought among the dwellers on the farms. But the fact is that farming, unlike other lines of business, does not show its full results in the markets of the world. The figures that make up the great total of sales of farm products are really the surplus over what the farmer needs for feeding his family and animals. The average of $180 per family, of course, shows that there are many families which have little cash to spend for dress and other things they must buy, but it does not show that they are verging on starvation by a long sight. And right here comes in the work of the farm paper to elevate and instruct and enable more and more of the families on the farms to increase their income. The figures do show that there must be a great deal of poor farming among the men who pull down the average income from the farm to as low a point as $180, and there is a crying need for improvement. While the farmer in this country is secure from any lack of food for himself and family, the average income for other things should be greater than $180 a year in times of such general prosperity and good prices. And it is the very men who thus run down the average in the tables who are the hardest to get at and help. They are the men who do not believe in book farming, who think that the way their fathers farmed is the way for them to farm, who cannot spare a dollar for a paper which would help them to get more than the pitiful $180 of the average family on the farm. There is need for a great deal of missionary work by those who are doing better. There are in every neighborhood men who are not only making a living, but are making money on the farm, and all around them are those who pull the average down. The good farmers should go to work and act as missionaries of information if only for the sake of the improvement of their own sections. The farm papers cannot get at these low-average men, for they do not read, but the successful neighbors could do a great deal in the way of showing them better things and getting them to read. The man who gets up a club for a good farm paper among his neighbors is not only helping himself, but he is a missionary whose influence will be of help to his community. The general average of the statistics would be vastly increased if every public spirited farmer would do something for his immediate section. And this means YOU.

Our Business Corner

THE FARMER CO.,
S. E. Cor. Market & 18th Sts., Philadelphia.
HENRY HARRIS, Business Manager.
Special Advertising Representative
S. E. Leith, New York.

In order to change the address of a subscriber we must have the *former* as well as the present address.

When writing to renew your subscription you should be sure to give your name and address in full, otherwise we cannot find your name on our lists.

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Our Latest Premium.

We have added another article to the premiums we give for those 6-name 50-cents-a-year clubs. This is "The Practical Farmer Fountain Pen." We have been thoroughly investigating the fountain pen question for some time, and after testing several makes have finally selected one which we know will give satisfaction. It has all the good qualities of a fountain pen and none of the defects which mark the cheaper grades. It is fully equal to any $2 or $2.50 pen sold in the stores, and has the broad guarantee of the P. F. back of it, and the name "Practical Farmer" stamped upon it. It is a pen you can lay aside for a week, and then take up and write with the first stroke; an essential with those who do not use a pen every day, and yet who need one where they can get it handily and ready for use when they do want it. We will send one of these pens, by registered mail, securely packed, with glass filler, to any friend who will send us a club of six yearly subscriptions to the P. F. at 50 cents each. Of course if you prefer any of the other thirteen premiums we offer for these clubs, you can have them. But this pen will fit into the pocket of most any reader of the P. F., and be a source of daily satisfaction for years to come. We have distributed a very large quantity of the Lincoln fountain pens with satisfaction to the recipients, but this is a much better pen in every way. We can recommend it in the full confidence that every friend who receives one will be fully satisfied with it.

There is only one other way of getting these Practical Farmer Fountain Pens: We will send the P. F. for one year and one of these pens for only $1.65, less than you can purchase a pen of the same quality in any store in the U. S.

COMMERCIAL

Philadelphia, March 14, 1903.

WHEAT.—

There was little demand from any source, but offerings were light and prices steady.

No. 2, red	78	@	78½
No. 2, Penna. and Del.	79	@	79½

CORN.—

No. 2	51¼	@	51½
No. 3	47¼	@	47½

OATS.—

The market for car lots was quiet, but prices ruled steady under light offerings. Sales of 2 cars No. 2 white, clipped, in Twentieth Street Elevator, at 43c.

No. 2, white clipped	43

BUTTER.—

Best prints, nearby	31	@	32
Firsts, creamery	28	@	30
Seconds, creamery	25	@	27
Ladle packed	14	@	16

CHEESE.—

Full cream, choice, small	14	@	14¼
Full cream, fair to good	13¼	@	13¾
Part skims	10	@	12

LIVE POULTRY.—

Receipts of fowls were light and the market was a shade firmer, with a more active demand. Other descriptions were in small supply and steady, with demand equal to the offerings.

Fowls, hens, per lb.	13	@	13½
Winter chickens, per lb.	18	@	20
Ducks, per lb.	15	@	16
Geese, per lb.	12	@	15
Turkeys, per lb.	15	@	16

DRESSED POULTRY.—

Fowls, per lb.	12	@	13
Chickens, per lb.	14	@	17
Turkeys, per lb.	16	@	18

EGGS.—

Nearby fresh, at mark	18½
Western, choice, at mark	18½
Southern do do	17½
So. Western do do	18

APPLES.—

Spitzenberg, fancy, per bbl.	3.00	@	3.50
Ben Davis, fancy, per bbl.	2.00	@	2.50
Baldwin, fancy, per bbl.	2.50	@	3.00
Greenings, fancy, per bbl.	1.75	@	2.50
Kings, fancy, per bbl.	2.50	@	3.00
Gano, fancy, per bbl.	2.50	@	3.00
Gilliflower, fancy, per bbl.	2.25	@	3.00
Northern Spy, fancy, bbl.	1.75	@	2.50
Mixed winter, good	1.50	@	2.00

GREEN FRUITS.—

Cranberries, Cape Cod, bbl.	12.00	@	15.00
Jersey, choice, per crate	3.00	@	4.00
Strawberries, Fla., per quart	20	@	40
Oranges, Cal., navels, boxes	2.25	@	2.65

VEGETABLES.—

Beans, So., per ½-bbl. bas.	3.00	@	3.50
Beans, So., per crate	2.50	@	3.25
Cabbage, Danish, per ton	6.00	@	9.00
Cauliflower, Cal., per crate	2.50	@	2.75
Cucumbers, Fla., per crate	2.50	@	3.00
Eggplant, Fla., per box	1.50	@	3.50
Lettuce, So., per ½-bbl. bas.	1.25	@	3.50
Onions, Ohio Globe, per bbl.	1.00	@	1.40
Peas, So., per ½-bbl. basket	2.50	@	2.75
Spinach, So., per bbl.	1.25	@	1.40
Tomatoes, Florida, carrier	1.00	@	4.00

POTATOES.—

State & West., per bu.	60	@	70
Sweet potatoes, per basket	60	@	70

BEANS AND PEAS.—

Marrows, H. P., per bu.	2.60	@	2.65
Scotch peas, per bu.	1.75	@	1.80
Green peas, per bu.	1.65	@	1.70

HAY AND STRAW.—

Timothy, choice, large bales	18.50	@	19.00
Timothy, mixed	14.00	@	16.00
Straw, straight rye	16.50	@	18.00
Wheat	10.50	@	12.00
Oat	9.50	@	11.00

FEED.—

Feed was in small supply and firm, with a fair demand.

Bran, bulk, winter, per ton	21.50	@	22.00
Bran, sacked, spring	21.50	@	22.00

COTTON.—

Middling upland, cwt.	10.10

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle lower.

Extra steers	5½	@	5⅝
Good steers	4⅝	@	5¼
Medium steers	4¼	@	4¾
Common steers	4	@	4⅛

CALVES.—

Veal calves about steady for best grades.

Extra calves	8	@	8½
Fair to good	6½	@	7½
Poor and common	5	@	6
Grassers	3	@	4

HOGS.—

Hogs active.

Fat hogs, Pa., Del. & Md.	7	@	9
Fat hogs, Western	9¼	@	10

SHEEP.—

Sheep and lambs firm.

Sheep, extra wethers	5¾	@	6
Sheep, good	5	@	5½
Sheep, medium	4¾	@	4½
Sheep, common	3	@	3½
Lambs	4½	@	7¼

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New York Market Review.

The violent changes in cotton prices in the past fortnight have been somewhat unsettling; but most of the changes have been in future deliveries, and not in cash cotton. Even when the violent break set in cash cotton here did not drop below ten cents. Thus ten-cent cotton may be regarded as a fixed standard for this season, although when the new crop comes in matters will change. But even so nearly all the nearby delivery months approach pretty close to ten cents. All considered, there is more reason for bullish sentiment in cotton than bearish, and should any disaster happen to the crop prices would soar quickly. Europe is a good buyer of our cotton, and we have far more mills than ever before using up the staple for export goods.

Another staple product that shows increasing firmness here is wool, which has been, in the past week, further stimulated by the embargo placed on wool in Boston and Massachusetts, and by the opening of the second series of wool auctions in London.— In the latter the sales were brisk, and prices firm. Crossbreds were in good demand, and a good number of fine half breeds were taken by American buyers at full rates. Continental buyers took freely at full prices. The only declines in prices were greasy and inferior wools. All this has stimulated holders here in their views, and prices tend to a firmer and higher basis. There has been little change in the grain market beyond nervousness and fluctuations caused by the rainy weather in the West, which threatens to damage the wheat crop. The most satisfactory feature has been the steady support to the market by exporters, and the total exports for each day have been large. Corn has outrun wheat in a bullish boom, and prices seem to advance with no trouble for this grain. Prices advanced, and London met the higher rates by increasing bids for corn, and exports have been constant and steady. Clearances some days average three-quarters of a million bushels. Oats have some speculative demand, and cash property has moved fairly well, but at the close they are temporarily quiet.

The spring demand for butter and cheese is good, and the out-of-town trade has developed force earlier than usual; but receipts of butter are running pretty high for this season. With arrivals running to nearly 35,000 packages a week, there is some difficulty in finding outlets for it all. Exporters are taking weekly some five thousand packages of underpriced butter, but rarely anything outside of 13 and 16c. per pound. Some new milk fancy State dairy is coming in, and selling as high as 26c. Demand for fall-made cheese is good, and is difficult to meet, for most of that stock has been worked out. With the decrease of the stock prices advance, and some dealers refuse to sell their fancy fall-made cheese for less than 15c. per pound. Winter-made cheese is irregular in quality and demand. Most of this cheese is made of skimmed milk, and is very irregular in value. Large colored cheese is becoming scarce and firm.

Supplies of live poultry are liberal, and running beyond the actual needs of the market. The Jewish Purim holiday of Friday has caused excessive shipments of live poultry here, and it has also tended to keep prices up. Supplies of fancy fresh-killed poultry have been very moderate. There are scarcely any desirable ducks and geese arriving, and very few Western chickens. Fresh-killed turkeys are in light supply. Nearby broilers are scarce and firm, but roasting chickens are fairly plentiful. Fowls are a shade easier, and squabs are steady at full quotations. Frozen poultry has been arriving more freely to fill up the gap, but there is some pressure to sell this.

Domestic potatoes are plentiful, but demand is steady at full prices. Southern potatoes are plentiful and selling well. Sweets are steady, but onions and cabbages are weaker. Hay has declined a little, but the proportion of top grade is small and difficult to find. There are ready customers for all prime hay in large bales. Straw is quiet, and in small demand. The market for domestic dried beans has drifted downward in quotations all the week. Supplies have not come forward freely, but there has been pressure in the West to sell.

G. E. W.

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New York, March 14, 1903.

WHEAT.—

No. 2, red	80¼	@	80½
No. 1, hard Duluth	90⅛	@	90½

CORN.—

No. 2	56		
No. 2, white and yellow	55	@	56½

OATS.—

No. 2, white	44¾
No. 2, mixed	44¾

HAY.—

Prime, large bales, 100 lbs.	1.00

BUTTER.—

Creamery, extra	28		
Creamery, firsts	25	@	27
Creamery, seconds	21	@	24
State dairy, tubs, fancy	26		
Western imitation Creamery—			
Finest	20		
Fair to good	17	@	19
Lower grades	15	@	16
Packing stock, solid packed	12½	@	13½
Rolls, fresh, choice	15		
Fresh, common to prime	13	@	14

CHEESE.—

State, f. c., small—			
Fall made, colored, fancy	14¾		
White, fancy	14½		
Colored, choice	14		
White, choice	13¾	@	14
Good to prime	13¼	@	13½
Common to fair	11¾	@	13
State, f. c., large—			
Fall made, fancy, large	14¼	@	14½
White, fancy	14	@	14¼
Colored, choice	14		
White, choice	13¾	@	14
Good to prime	13¼	@	13½
Common to fair	11¾	@	13
State, light skims—			
Fall made, choice	12½	@	12¾
Winter made, choice	11¼	@	11½
State, part skims, prime	10½	@	10¾
Fair to good	9½	@	10
Common	6	@	7
State, full skims	4½	@	5

LIVE POULTRY.—

Fowls, selected, heavy, lb.	13		
Roosters, young, per lb.	12		
Turkeys, per lb.	15		
Ducks, average, per pair	70	@	1.00
Geese, average, per pair	1.37	@	1.75
Live pigeons, per pair	35	@	40

DRESSED POULTRY.—

Turkeys, young hens & toms	15	@	17
Chickens, Phila. broilers, lb.	23	@	25
State & Penna. broilers, lb.	21	@	23
Capons, average best, per lb.	16	@	19
Capons, Phila. fancy	20	@	22
Fowls, West., scalded, per lb.	13		
Squabs, large, white, doz.	2.75	@	3.00
Dark, per doz.	1.25	@	1.50

EGGS.—

State and Pennsylvania—			
Fresh gathered, firsts	19½		
West., fresh gathered, firsts	19		
So., fresh gathered, firsts	18½		
Duck eggs, Baltimore, doz.	33		
Virginia and N. C., per doz.	31		
Fair Southern, per doz.	28		

GREEN FRUITS.—

Oranges, Fla., brights, boxes	3.50	@	5.50
Oranges, Fla., russets, boxes	3.00	@	4.50
Tangerines, Fla., straps	5.00	@	8.00
Tangerines, Cal., straps	3.00	@	6.50

VEGETABLES.—

Asparagus, Char., prime, doz.	15.00	@	18.00
Culls, per doz.	9.00	@	12.00
Beets, N. O., per bbl.	2.00	@	3.50
Beets, Fla., per crate	2.00	@	2.50
Beets, small, per crate	85	@	1.00
Cabbage, red, per bbl.	70	@	75
Carrots, N. O., per 100	3.00	@	4.00
Cauliflower, Cal., per crate	2.00	@	3.00
Celery, Fla., per case	2.50	@	3.00
Lettuce, Romaine, per bbl.	3.00	@	6.00
Onions, yellow, per bbl.	1.50	@	2.25
Onions, white, per bbl.	5.00	@	7.00
Onions, red, per bbl.	1.25	@	1.75
Radishes, per 100	3.00	@	3.50
Squash, Hubbard, per bbl.	1.25	@	1.50
Turnips, Russia, per bbl.	75	@	85
Tomatoes, Florida, carrier	1.50	@	2.50

POTATOES.—

Maine, per sack	1.75	@	2.25
Long Island, bulk, per bbl.	2.00	@	2.25
So., com. to prime, per bbl.	1.00	@	1.75
E. Shore (Md. & Va.), red	2.50	@	3.00
N. C., red, per bbl.	2.25	@	3.00
Norfolk, red, per bbl.	1.75		

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WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FEECE WASHED.	
XX and above	30@32
X	28@29
Medium	30@32
Quarter blood	30@31
Common	26@28
UNWASHED (light and bright.)	
Fine	19@22
Medium	22@23
Quarter blood	22@23
Coarse	20@21
UNWASHED (dark colored.)	
Fine	16@17
Fine medium	17@19
Medium and quarter	19@20
Coarse	17@18
COMBING AND DELAINE FLEECES.	
Washed fine Delaine	32@33
Washed medium	30@32
Washed low	30@31
Washed coarse	27@28
Unwashed medium	23@24
Unwashed quarter blood	23@24
Braid	21@22

FITS

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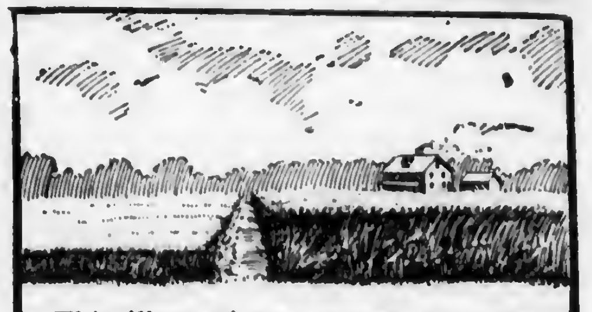

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The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

The Baby Over the Way.

VELMA CALDWELL MELVILLE.

She's the daintiest mite of a maiden,
With eyes as black as the sloe;
A mouth that allures one to kiss it,
And teeth like pearls in a row.

She coos and prattles and mimics;
She's an angel asleep or awake;
She rules the house like a despot,
Her orders right meekly they take.

When she wills she rides in a carriage,
Arrayed in ermine so fine;
When hungry she calls her retainers
And gladly they help her to dine.

She thinks this world is all sunshine,
Nor dreams of tempest-tossed skies,
For about her the light of love's shining
And the heavens are her own mamma's eyes.

That life may be ever as sunny,
That never may come a dark day,
Is the prayer we whisper at even'
For the baby over the way.

In the Kitchen.

Mrs. M. M. Jordan, Winona, Washington, writes: Dear H. C.: Have you room for one more? If so I will come in and tell you how much I enjoy this department of our good P. F. I have only had the privilege of reading the P. F. a year, and every time it comes I think how I would miss its visits each week, laden with that which is at the same time helpful and entertaining. I will tell how I make soft yeast without yeast cakes. Boil a handful of hops in three quarts of water. Beat two cups of flour smooth with a little water and pour boiling hot water over. Add a tablespoonful of salt and half a cupful of sugar. Set where it will keep warm and stir occasionally. When it shows signs of working, which will be in two to five days, according to the weather, cook and mash fine four good sized potatoes; add, then give plenty of room. It will be better after the first baking.

Also for the benefit of the younger housekeepers, I will tell how to make sure of nice light bread, that has not failed me since I learned it. When you boil potatoes for dinner have ready necessary flour and pour over it the scalding potato water. When cool add one cup of yeast and let stand till it is like foam, then add water and flour to make a stiff sponge. When light, mix well. Do not leave dough too soft.

Have any of the sisters tried this way for using slices of bread not fit to put on the table? Spread with butter and place in oven till brown through and brittle. The children will eat it almost like cookies, and it is much better for them. I see one sister advocates the use of galvanized tubs. My objection to them is that it is hard to screw the wringer to them.

Among the Flowers.

MARY L. GARNER.

"While the earth remaineth, seed time and harvest, and cold and heat, and summer and winter, and day and night shall not cease."
—Gen. 8:22.

So with eternal faith in this promise, the annual recurring signs of spring's awakening, and the numerous seed catalogues which, at this season find their way to our tables, is it to be wondered at that the busy homemaker becomes a bit of a "flower crank?" The greatest difficulty to be encountered lies in making a choice of the numberless attractions set forth in these self same farm annuals. And the more the desirability and worth of some of the novelties are noted, the more bewildering does our choice become, until we close our eyes in dreamy recollection of the dear, old-fashioned garden, with its flowers of precious memory, or the sweet-scented or scarlet geranium in the sitting-room window. A partial list of annuals from seed has previously been mentioned, and now for a talk about a summer-flowering bulb, the gladiolus, which is called by some the "Queen of Bulbs." The price is within the limit of any purse, and this bulb is as easily grown as a potato, flourishing for rich and poor, in any soil or climate, though richly repaying any care taken in its cultivation. In its culture a moderately rich loam, well pulverized to a depth of eight inches, is best adapted to its needs. For best results avoid a very heavy soil and strong manure. The bulbs should be planted on an average of five inches deep and three or four inches apart. A single plant is very decorative, but a clump of them, with their long, tough, sword-like leaves and immense spikes of bloom, is unsurpassed, unless we except the canna. But the bloom! So majestic, so magnificent so beautiful the range of coloring! While being so popular for out door culture, its chief charm lies in being used as a cut flower, it seeming to be especially fitted for the vase. It possesses one virtue as a cut flower which cannot be claimed by any other; the buds will open in water after cutting, the same as if uncut, and the spikes will remain beautiful two weeks, although the last opened buds will be somewhat paler than those first in bloom. Another point of merit in its favor is that it is not troubled with any insect enemies, and is free from disease. The bulbs will bloom in three months after planting, and sometimes sooner, but it is safest to allow three months. Those bulbs wanted for early bloom should be planted indoors in boxes not later than the middle of March and are ready for transplanting by the middle or last of April. By planting at intervals one can have them in bloom successively from June until the first of November. If beauty of bloom is the only consideration, seed should not be allowed to ripen, for they are a detriment to the flower. But it is a source of increase, besides being a pleasure to plant the seeds and note the different colors, form and size of the bloom, scarcely any two being alike. Sow the seed in light, sandy soil, in the open ground, the first of May. They usually bloom the second summer. The bulblets are a source of increase, too, making flowering-sized bulbs for the following season. The method of treating the bulbs is the same as for spring-flowering bulbs. They possess excellent keeping qualities and will keep in perfect condition for a year after being dug, which cannot be said of most bulbs. Before being stored they should be perfectly dry at the root, and when the late ones have been dug the green tops should be left on the bulbs for at least two weeks. Then after cutting off the tops to within two inches of the crown, the bulbs should be allowed to dry for another week. Only fragrance is lacking to raise this flower to the acme of perfection, and that may be reckoned as one of the future possibilities, as most of the wild sorts are fragrant.

Max, Ind.

* * *

Edw. E. Higgins, Crow Summit, W. Va., writes: Far back through the misty past, memory carries us to childhood days. The scene is one that is dear to every heart, the home of aged grandparents. The large, roomy farmhouse, setting well back from the roadside, and the broad level yard in front. On either side of the gravel path, reaching from gate to house, were long, narrow beds of flowers. These were filled, not with costly plants, but with simple, old-fashioned blooms—zinnias, cockscomb, marigolds and many other varieties whose names are unknown to us. Over the porch, climbing in thick confusion, were rich, dark-colored frower beams, while in one corner of the yard a thick bunched syringia held sway and nearby the dark green vines of myrtle hung over the edge of a little mound. On either side of the pathway three maple saplings proudly reared their heads, while two small, neatly trimmed cedars held a central location in each half of the yard. These trees, planted by his own hand, were grandfather's pride, while the flowers were grandma's most priceless treasure. Those old, old flowers! How they nodded and becked in the warm, mellow sunshine, through the long summer days!

No care was ever so pressing as to interfere with the planting and culture of those modest, cheerful flowers, and no childish hand on mischief bent would harm "grandma's posies." Many times have we gazed on more beautiful, more costly blooms, but none can bring the rapturous pleasure that was brought by the plants grown by the kind old hands. But long years have brought a change. Other children now sport about the broad green yard, and grandma's long, narrow flower beds are no longer there; neither is the kindly old face, beaming with pleasure over the beauty of her pets. Years ago the tender hands were crossed upon the peaceful breast, and loving hands bore her to the silent tomb. A few brief months passed swiftly by, and the strong hand that had planted the trees with careful pride, lay white and nerveless, too. The gentle protector of the flowers had passed away, only to be followed by the companion who had gazed silently upon their beauty from beneath the cool shade of his trees.

The six impertinent maples have grown broader and broader, the modest little cedars having given room to their more thrifty neighbors, until the interlacing branches form a canopy, seemingly to protect the spot that once was made beautiful by the dear one's precious flowers. The flowers are gone, but the stately trees remain, a memento, and a true symbol in their protecting duty, of the hand that planted them.

Spring Colds.

EXPERIENCE.

The changeable weather of spring is very irritating to the throat and lungs, and it is well to know what to do at the first appearance of uncomfortable symptoms. Usually a few doses of aconite, if taken at the very beginning, when one feels chilly, will break up a cold. Gelsemium is the proper remedy to take for la grippe, but it must be taken at the very first to drive it out of the system without further trouble. These two remedies should be taken in homeopathic form, and as often as every hour or even every half hour in severe cases. Gelsemium and byronia taken together are excellent when la grippe has become more advanced and there are pains in the bones and muscles.

For sore throat use a gargle of borax and water, a level teaspoonful of the powder to a tumblerful of water. Gargle the throat frequently with this solution.

A hacking cough, caused by tickling in the throat, is relieved by holding a piece of borax crystal as large as a pea, in the mouth and letting it dissolve gradually.

It is not well to change the winter underclothing for the thin summer wear until danger from chilly days is past. A suit or two of old winter undergarments that have become very thin, is very useful when making the change from thick winter clothing to the thin garments. A liniment to use on the chest in case of hoarseness is made of one ounce each of turpentine, sweet oil and gum camphor.

Earning Money at Home.

HATTIE PEACOCK.

I earn money at home by making candy, and I give below the prices I receive for it, cost for making and also recipes, hoping it may help others. An earthen kettle and a tin spoon, with a few plates and pans complete my outfit. Have a good fire and plenty of room, for sometimes one has to hurry.

My "very best" candy (it goes by that name) is made of four pounds brown sugar, at 5 cents per pound, and one and a half cups water. Boil briskly, but do not burn, until a long "hair" will fall from the spoon when just dipped into candy and held in the air. The best way for beginners to test the candy is to drop a teaspoonful into a cup of cold water. If it is brittle it is done. Do not stir the candy from the time you put it into the kettle until it is cool. When cool enough to handle, drop vanilla, not too much, over it; roll up and pull a long while. If it gets hard too quickly, hold over the stove, pulling all the while. After it has been "stretched" enough pull into a slender strip; I have mine three-quarters of an inch across and cut into half-inch pieces with a pair of sharp scissors. I cool the candy in a buttered pan. When done it is worth 25 cents per pound.

Another candy, worth 20 cents per pound, is made as above only it is made of white sugar and strong coffee used as the water is in the above. I cut my candy and leave until hard on the bread board, which must be perfectly dry.

PEANUT CANDY.—Use two pounds of brown sugar, one and one-half cups molasses; boil until brittle when cooled in cold water. Only try a little. Have ready four cups shelled peanuts and put into candy just before done. I buy raw peanuts at 8 cents per pound. There are about two quarts in one pound. Roast, shell and "peel." Two pounds will shell about four cups. This candy costs about 7 cents per pound and sells for 20 cents. I cool in a large pan, buttered. Have about one-half inch thick in pan and when cool break with the back of a knife blade.

MAPLE SYRUP CANDY.—Use two cups brown sugar, one cup water; cook quickly; try as the others, but do not stir. Put out of doors in the dish it is cooked in, until it is cool enough to bear the fingers, or about 90 degrees. Then beat it quickly, taking care it does not cool too soon. I hold mine over the stove when beating, and I use a spoon and beat about two minutes; then run in a flat buttered dish. When nearly cool cut in squares one and a half inches each way. The maple taste is given it by flavoring with vanilla before heating. This costs 5 cents per pound and sells for 20 cents.

One can make a great variety from one kind after practicing a little. I made up all my recipes myself. They may or may not be the kind others use; in any case they are a success. If this is printed I may come again and tell of some other kinds I make.

[Indeed such sweet company is always appreciated.—ED.]

NAMES OF FARMERS WANTED
The Valley Farmer wants names and addresses of farmers anywhere in the U. S. They want to get them interested in their big farm magazine, which now has a circulation of over 100,000 copies and is acknowledged to be the best farm paper in the West. The subscription price is 50c. per year, but if you will send them five farmers' names and addresses and ten cents in stamps or silver they will enter you as a subscriber fully paid for a whole year. Address,
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Brands and Labels.

ANNIE J. PADDICK.

Do you ever study the brands of many things that the home calls for? There is more "stuff" now to fool the housekeeper than ever was known before. I have bought bottles of lemon flavoring, with beautiful labels. I used several drops and threw the rest away. There was no lemon in it, but poisonous acids and coloring stuff.

Some things marked "standard" are poor second and third grade. Some brands of sugar are not sweet and pure enough for preserves or anything else, and are dirty, too. There are good brands of muslin sold for nearly the same price as poorer brands that are full of starch. It pays to wash all coffee before browning. The color of the water is the proof of the cleansing. If you will buy cheap packages, try counting the number of decayed grains. I have counted a good percentage from one package. Cheap coffee is what falls from the trees decayed. It is cured and colored to disguise the bad grains, then sold cheaply. It is not browned nearly enough for health, but that makes it weigh heavier. It will pay any housekeeper to study the brands and labels and reject a lot of unhealthful, dirty, adulterated mixtures, such as dirt in ground spices, grit and alum in some baking powders, wood alcohol and poisonous colorings disguised under a beautiful label. Talk about harmless preservatives! Do you want boracic or salycilic acid in your fruits and stomachs? Study these things prepared for the housekeeper.

Chauncey, Ill.

How to Make the District School Better.

MRS. H. L. TAYLOR.

Those people who complain that the district school is a failure, and that their children learn little or nothing there, should consider the fact that there are three parties in this matter—teachers, parents and children, and that each of them have their part in it. Parents must begin, by putting some confidence in the school, and speaking respectfully of it and of the teacher at all times. Too, they must see that the children are in their places every day. Pupils lose ground by absence, and interest flags. Give the teachers a chance, by requiring constant and regular attendance. Each lesson depends more or less upon what has gone before. The ladder of learning is steep enough for the little feet when they go upward, round by round, each step a vantage ground from which to take the next. The teacher's work is necessarily for the school as a whole, and his teaching for the class at large. It cannot always be adapted and made to fit each individual, and it is often the case that one or more of the class fail to quite understand, and the teacher is ignorant of it. A shy, diffident child will seldom ask explanations. Yet they must understand point by point, as they go on, or they soon become hopelessly tangled, and we need not look further for any real progress. Parents should see to it from the very first, that the child does not get into the habit of learning mere words to recite to the teacher. He must be made to see that his lesson has a meaning and use, and helped to connect it with what he already knows.

Parents should not hush up the little ones when they attempt to speak of their school work; but let them see that they have a warm interest in it. Almost everybody is capable of giving needful help to them in the rudiments of their studies, and they should not shirk the task of seeing that they have it. If they thoroughly understand in the beginning, and form the habit of doing so as fast as they go, the very best foundation that is possible has been laid and the future is assured. But while the parent's ear should always be open to an appeal for help, he must never undermine the teacher's authority by listening to petty complaints. Let him investigate for himself if he fears there is reason for disapproval, but never intimate it to the children unless he is ready to remove them. Parents should visit the schools and get acquainted with the teacher, his aims and his ideal for the work, that they may co-operate intelligently; and wherever his efforts fail, endeavor to supplement them by their own. I am aware that this is asking a good deal of parents, but there are very few things we can get done perfectly by the mere expenditure of money, without further care on our part, and this is not one of them. Of course what is outlined might not all be possible in town schools, but I think it would be in the country district; and if the children's minds were encouraged to activity by freely talking over their lessons at home, and the proper interest in them manifested there, the results would be an awakening in country schools.

Mt. Morris, Mich.

[Bravo!—ED.]

Correspondence.

"A Sister from Kansas" writes: I have often thought I would tell those interested about my chickens. I keep about 200 hens, and last year sold 1,799 dozens of eggs, and hatched 500 chickens, besides what eggs we used. I did not keep any account of these last, but as there is a family of ten, I know we use a good many eggs. I was going to tell the sisters how I feed them in the winter. I warm skimmed milk or buttermilk and mix with bran, real thick, and give them all they will eat up clean; then I scatter wheat or millet seed or some small grain, in hay for them to scratch at, and I am sure they get all the fresh water they want to drink. In the afternoon about 1 or 2 o'clock, I give them milk or another mash of bran, and about five I give all the corn they will eat up clean. I always keep ground bone, crushed oyster shells and mica grit so they can get all they will eat any time. I can have a chicken any time I want one. I like to work with poultry, and think there is a good deal of profit in it for the farmer's wife. Our chickens run at large, but do not get in the garden, as we have it fenced with poultry wire.

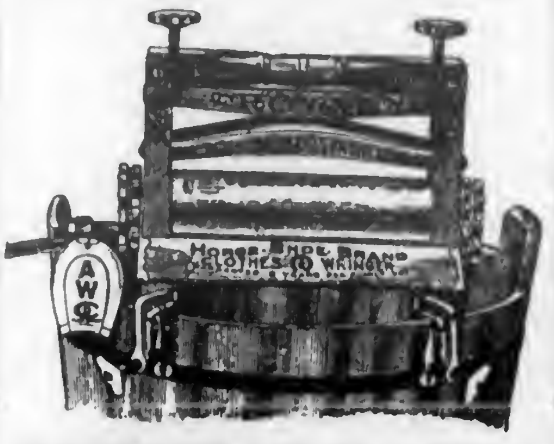
Mrs. R. E. Merryman, Melrose, Florida, writes: Dear Home Circle: We have just been having a cold snap here in Florida, which makes us realize that winter is not all sunshine and flowers, even in this favored clime. We really found a little ice last Wednesday morning (Feb. 18th), which is very unusual in our State, and especially at this time of the year. It was enough to make us sympathize with those in colder localities, although the cold wave soon passed. The roses on my front porch and in the yard are as bright as ever this morning, the sweet violet beds are purple with bloom and the jasmine is covered with golden bells. The strawberry patch is a beauty just now, with its immense plants showing dark green and white, with large red berries and lots of small green ones peeping from between the leaves. I measured some of the plants by turning a peck measure over them and the leaves protruded all around. Our garden peas were injured a little by the cold snap. We are now using from the garden, peas, cabbage, collards, turnips, cauliflower, carrots, onions, lettuce, radishes and strawberries. It is almost time to plant the spring garden. The strawberries will last until June, then there will be a large variety of delicious peaches, some pears, grapes, figs, etc., and in the fall are the late pears, oranges and other citrous fruits. I forgot to say that in May and June there are quantities of wild blackberries, blueberries and plums. We have some kinds of vegetables fresh from the garden at all seasons, although all kinds do not do as well at all seasons. Thirteen years ago we moved to Florida, after corresponding with a lady who had written a letter to the "Housekeeper," as I am now writing to the H. C., and we have had reason to be very grateful for the information received in that way. If any of the "Circlers" would like further information I will answer all questions if a stamped and addressed envelope is enclosed. It is well to pass on a favor when one can. Melrose is a delightful little town situated on a beautiful lake, and is in the clear lake region, the healthiest part of Florida. A great many Northern people have winter residences or permanent homes here.

Bonnie P. Wagner, LaBelle, Mo., writes: The farm home is an interesting subject, and one worthy of more discussion. The housewife is mistress, and for this reason the men should provide all necessary conveniences however small they may be. The 20th century housewife is the most independent woman on earth, but not every housewife is of this 20th century type. The farmer's wife has, or at least should have, her sewing machine, washing machine, carpet sweeper, meat chopper, and last, but not least, a refrigerator. While not all of them have the oil stove, they should have one, as it is so handy in hot weather. Her chickens are incubated without the fuss of the hen, meantime the latter is steadily manufacturing eggs. The farmer's wife should have help, provided there is a large family or many hands are kept outside the house, but, of course, with the "implements" above mentioned, she does not need help as badly as the one who has not these necessities. The woman who has these works and makes money in the "long run," while the wife of the farmer who thinks back hand "tools" will do for his wife will sometime think of it. He does not think, but if he did he would not be so "cruel," as we may term it. The husband who runs the churn and washing machine with the windmill or gasoline engine will find that it pays. The washing is done by nine o'clock, while if the mistress of the house had to scrub at the tub she would get through about two o'clock, her hands sore, her temper bad, and herself almost given out. This is what kills the farmer's wife. The old dash churn should be taken for a vinegar jar, and a good patent one substituted. After the washing the wife is just the same cheerful, rosy cheeked wife as before, but many a one has gone to an untimely grave by nothing but the negligence of her husband. One other thing I almost forgot. I wish to say the well should be so placed as to put a pump in the house over a sink. This saves many an exposure in the wind, wet and cold, and many a day she will heartily thank you for your care and pains to make things comfortable. You will be repaid and have a clear conscience. Sisters whose husbands don't see this, show it to them and they will probably take the hint.

Youth's Parliament.

Herbert Winters, Adams, Texas, writes: I am a little boy thirteen years old. Have been working on the farm for two years, and have learned to do many things, but have not learned to like it as well, perhaps, as I should. Father has been a subscriber to the P. F. ever since he began farming, and thinks it the greatest paper in the world. I have been very much interested in it myself for the last year. At first there was nothing in it for me, but after becoming weaned away from my village habits, and learning to love the pigs, calves and lambs, and occasionally riding a mule, I became convinced that there was more in farm life than I had ever imagined. I like to read Mr. Terry's articles; they are so plain and easily understood. I like his "Health Hints," but do not always agree with him, as most boys of my age can hardly make out on two meals per day. I like the Live Stock department. Father always reads Dr. Wilson's letters with much interest and pleasure. He is very much interested in hogs and thinks Dr. Wilson authority on the subject. I like the Experience Pool, the Short Cuts, and, in fact, I like it all so well I can hardly wait for it from the time I get through reading one number until the next one comes.

[We predict an up-to-date farmer from this wide-awake boy. We are glad to hear from the boys.—ED.]



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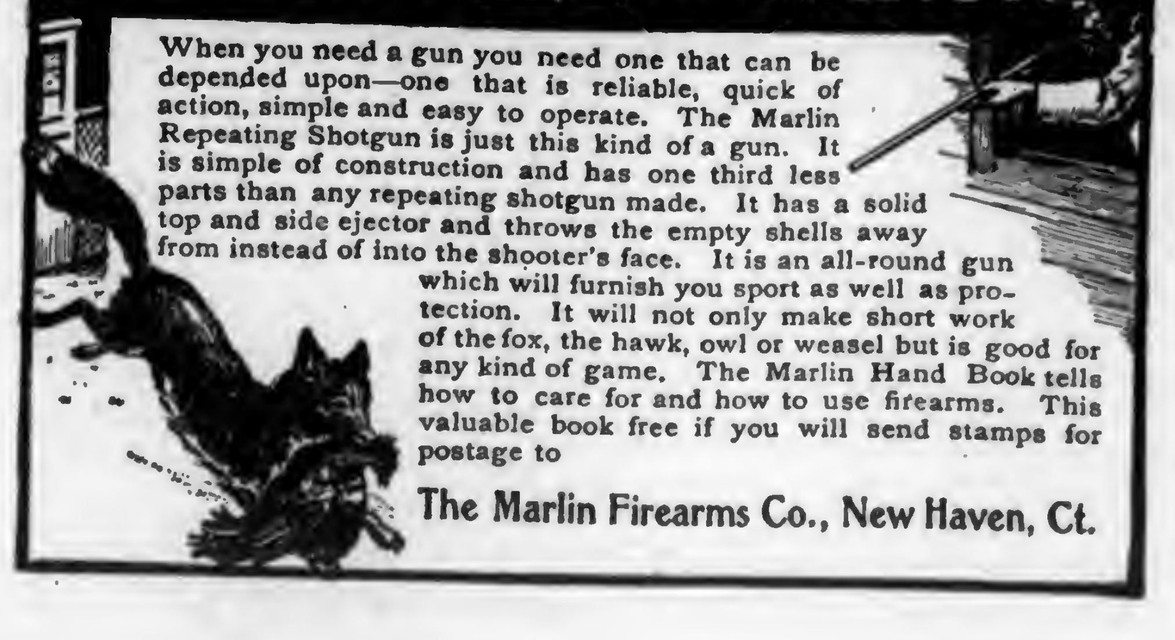

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Our Experience Pool.

"Experience is the best teacher." This Experience Pool will be a weekly Farmer's Institute for the exchange of practical ideas by practical farmers. We want them to give their experience, as well as suggest topics for future discussion. We publish this department so that all may have the benefit of the tangible, practical experience of others on every subject pertaining to the farm. Let all contribute. A cash prize of 50 cents will be paid for the best contribution, 25 cents for each other contribution published. The only condition is that you are a yearly subscriber to the paper. Write on one side of paper only. On upper left hand corner mark plainly the number of the topic you write about. Articles on all topics must be in our hands at least three weeks before publication. Do not forget to suggest ahead topics for discussion. Address all communications to THE EDITOR, Box 385, Raleigh N. C.

Topic No. 566, April 4.—*How Do You Raise Turkeys, and What Breed is Best?*

Topic No. 567, April 11.—*What Varieties of Peaches Have You Found Most Profitable and How do You Manage Your Peach Orchard? Mention Best Two Varieties for Early, Mid-Season and Late.*

Topic No. 568, April 18.—*In Farming on Shares, What is Considered a Fair Rent in Your Section, and Should the Share Include the Poultry the Wife Raises?*

Topic No. 569, April 25.—*What is Your Experience with Hired White Labor in the South as Compared with That of the Negro?*

Topic No. 570, May 2.—*What is Your Experience in Stacking Hay Right from the Swath, and Have You Any Home-Made Derrick That Has Proved Economical of Time and Labor in the Stacking? Do You Use Fork, Horse Fork or Sling?*

Topic No. 571, May 9.—*Give us Your Experience with Alfalfa East of the Mississippi.*

Topic No. 572, May 16.—*Cherries for Market. Have You Found Them Profitable, and What are the Most Profitable Sorts?*

Topic No. 564.—For the Ladies. How do You Make the Washing of Dishes, Pots and Pans Easier and not at the Expense of Time and Cleanliness?

Mrs. Geo. S. Davis, Northwood, N. H.—Have a large dishpan and a wire drainer. Fill the pan with the table dishes neatly piled up, after removing all bits of refuse, crumbs, coffee grounds, etc., and lay the silver in at one side of the pile of dishes, fill in around with odd pieces, cups, small pitchers, etc., then cover the whole with boiling water. Do not put in any soap or powder. Now sweep or tidy up, any little job to fill time till water is cooled enough to bear hands in. Use a clean, sweet cloth made of one-half or one-third yard brown linen crash, hemmed and put in the wash at least every week. Rest saucers and plates, bottom side up, on a cup in drainer, and you need not rinse them, nor hardly wipe, except a few stray drops; just let them dry a few minutes in drainer. I cannot use much soap, as my finger tips crack, but if a dish is very greasy, rub a little soap on the cloth and apply where needed. For glass and milk utensils I use powdered borax, which cleans and disinfects at the same time, and does not leave any taste or odor as soap may if used too freely. I always put kettles and sticky dishes soaking as soon as emptied, and if convenient, let stand on hot stove till ready to wash, then they are easy to clean. A dish badly burned on or very greasy has ashes added to the water. When the bean pot is burned on the inside, fill with water and set on stove or in oven. I use a large iron dishcloth of interwoven rings for ironware. Now try my way before you condemn it. It is on the same principle as the patent dishwashers, hot water and wire drainers.

Mrs. Ida Richards, Prairie Grove, Ark.—If dishes are to be washed quickly and well, there must be plenty of hot water. And certainly the next thing in importance is to scrape them all out well before putting them in the water. I have seen women just gather them up and put pieces of bread, meat and everything right into the dish water, and to my mind those dishes never were fit to eat out of. After all loose food is cleaned out of them, which can be done very quickly, put them into a pan of hot suds. As they are washed, I turn them into another pan to drip, and when all are washed, pour clean, hot water over them, and in a very few minutes they are dry, and clean enough for anyone to eat off of. And in so much less time than it would take to wipe each one dry with a cloth. For the fancy glass dishes I use a little scrub brush. This takes all the dirt out of cracks and corners, and leaves them clean and sparkling. Rinse in hot water and rub with a clean cloth, and it is done very quickly. Now for the cooking vessels. When I dish up the food, I always fill vessel with water. Then when I am ready to wash it, if there is anything sticking to it, I run a wire cloth around inside once or twice and it can be washed immediately. I recently had a woman working for me who just set them aside without putting the water in them, and the result was quite a while lost trying to wash them, and they were not clean then. I advise everyone to have the wire dishcloths, for they are almost indispensable, as work can be done so much quicker and better when they are used. I only gave ten cents for mine, and suppose they are never more than that. But whatever you do, don't fail to fill your pots and pans with water as soon as the food is taken out of them.

Mrs. Herbert Hinds, Fredonia, N. Y.—When getting dinner I have covers that are only steamed and not greasy wiped and put away when I take up dinner. Put pots and pans to soak as soon as empty, and after dinner wash them at once. Then it does not take long to wash the table dishes if plenty of hot water and soap are at hand, with two pans, one to wash in and the other to rinse in, and then put to drain in a wire dish drainer with a bowl under it, and you will not need a towel.

Mrs. M. A. Reynolds, Uncas, Okla.—Have plenty of hot water and soapsuds. Scrape off the scraps, wash and pour hot water over the dishes and wipe dry with towels made of old flour sacks.

Mrs. Wm. Lea, Marietta, Ga., R. F. D. 4.—When I prepare a meal I see that there is plenty of hot water, and all the buckets in the kitchen full, so that the kettle can be re-filled as fast as used, and when the meal is ready there is no litter in the kitchen and no washing but the table dishes. As soon as the food is served I fill all the pots with hot water and place where they will keep hot. If the pots are greasy put a little Gold Dust in the water. Clean scraps from the plates, rinse cups and saucers with warm water, and arrange all in their own groups. Knives, forks and teaspoons are washed in hot water with spoonful of borax in it. Then have two pans of hot water and wash the glasses in one having Gold Dust in it, and rinse in the second pan. Then wash the cups, saucers and dessert plates, and the soup plates and bowl and vegetable dishes last, and rinse each. Then with more hot water and borax I wash the pots and pans and dry near the stove. Pots and pans are washed all over outside and inside. Then I wash and rinse all the dish cloths and hang them in the sun to dry. I use four cloths, one for washing dishes, one for wiping dry, one to dry knives and forks and one for pots and pans, and each is washed every time it is used, and wash two weekly in the regular wash. I use cheesecloth or old pieces of tablecloth for drying cloths. After they have been in use some time I burn them and make new ones.

Mrs. J. C. Wheeler, East Scott, N. Y.—All kettles and kitchen bowls should be put to soak as soon as emptied. Then with a large pan of hot water and a smaller one of clear hot water, an empty pan with a cloth in the bottom to drain the plates, and good soft cloths, there is not much trouble in washing the dishes. A putty knife and a wire dishcloth are also a great help in keeping the seams of milk pans and other utensils clean, and also a small brush of broom corn cut from a new broom.

Mrs. G. W. Ribble, Hettick, Ill. — I make two lots. One glasses, spoons, knives and forks, and the second, cups, saucers, plates and dishes. Put a teaspoonful of washing powder in a pan half full of hot water, with soap for suds. Wash the first lot and place in draining pan, and put the second to soak while wiping the first lot. Rinse all in clear, hot water. Then have hot water ready for the pots, pans and kettles. Use an old steel knife for scraping the pots, then rub with scouring soap and wash and dry on the stove. Better have two cloths for washing the two lots and one for the pots and pans. Large towels are needed to have dishes bright and clear, and large ones can be made of cheap unbleached cotton better than other goods.

Mrs. Elizabeth Bell, White Pine, Tenn.—I have clean, soft dish towels, two large pans, plenty of hot water and soap or washing powder. In one pan make the suds and wash the dishes after cleaning them of scraps, and place them in the other pan till filled. Then pour over them boiling water and polish at once with a soft towel, and so on until all are cleansed. Clean pots and pans in same way, except that I add soda to the rinsing water, which clears the pans of all odors of vegetables that may have been cooked in them.

Mrs. Z. E. Smith, Kerens, W. Va.—After the meats, etc., are taken up we fill the pots and pans with cold water, and put them on the stove till we are ready to wash them. When this water is hot we scrape with a knife all loose particles adhering to them, into the water, and empty in the swill tub. Then with hot water and washing powder and a soft towel the pots are washed, inside and out, and dried on the stove. The dishes should be first rinsed in hot water to take off the crumbs and grease, and then washed in soapsuds and wiped dry.

Susan B. Robbins, Abington, Mass.—First have all the dishes of a kind together and all scraps scraped off. Put cooking utensils in water as soon as done using them. I never set enamelware kettles in the stove, as they do not cook any better and it takes time to clean off the soot. Have plenty of hot, but not too soapy, water and plenty more on the stove, and also plenty of clean, dry, soft towels and a handled dish mop. Then a suitable place to drain the dishes; a pan will do. Have a shelf nearby to put the dishes on to save distance in walking. Always wash the cleanest things first and do not wash so many that they will get dry before wiping. Milk things must be scalded in clear water.

Mrs. J. A. Fleming, Middleburg, N. C.—I know of no specific way to wash dishes. But for cooking utensils that are hard to clean sprinkle soda over them and pour on boiling water. Let them stand while attending to something else. Then with the aid of pot rings, which can be bought for five cents, the work is speedily accomplished. The rings are indispensable and all should get them.

F. A. Hayes, Vancouver, Wash.—Plenty of hot water and soap and clean towels. Wash the glass in hot water, rinse and wipe dry. Silverware next, in same water, with soap. Wipe dry and polish with tissue paper or chamois skin. Scrape the dishes and place them in pan and pour over plenty hot water with soap. Wash with a handled mop and drain in a pan after rinsing. Have tried running through hot water without wiping, but it is not satisfactory. Pots and pans wipe off and wash and rinse, and dry in the oven. Change dishcloths often, boil them and hang in the open air. Cheap grades of linen toweling make the best cloths. Flour sacks are also good if hemmed. Kettles that have been burned, boil a short time in lye and the burned spots will disappear.

Mrs. E. N. Moore, Uncasville, Conn.—I put the dishes in a large pan of hot soft water made soapy; wash with a mop, put on dish rack, rinse with hot water and dry with clean towels. Above the sink is a sliding door about one foot square, opening into the pantry. On the pantry side of this opening is a shelf on which the dishes are placed as dried and this saves steps and labor. I keep the handles of knives out of hot water, and steel forks likewise. For iron kettles I use a scraper, wash, rinse and dry, and put in closet under the sink. Milk pans and pails are rinsed, then washed with soapy water, scalded and dried and put in the sun in warm weather, or by the stove in winter. After washing, the mop and towels are rinsed, and put to dry, the pan and rack put away and the sink cleaned.

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J. S. Phillips, Lancaster, O., R. No. 1.—Plenty of hot water, soap and clean towels. Cheap crash towels are better than cotton, as they wash easy and look clean, while the cotton does not. Have plenty of hot water always on the stove if you have no boiler. Put water in pots and pans as soon as emptied. A table covered with pasteboard is a good place to set them, and this can be burned when soiled. Scrape the dishes and have a pan of soapsuds and one of hot water. Wash the glassware, rinse and wipe, then cups and saucers, and the dishes last. Then wash the pots and frying pans. Do not have a black thing called a "pot rag," but wash well and wipe dry with the same towels you use for the glassware. Then rinse the towels, wash with soap and hang to dry. Do this every time and have sweet towels and cloths.

Mrs. W. M. Gunn, Rockingham, N. C.—Put all scraps in the slop pail and stack the dishes and place them in the dishpan with the knives and forks around them, then cups and saucers and pour boiling water over each one of them. Then wipe with a clean cloth. This is quickly done and not at the expense of cleanliness. Then take the cooking utensils and wash with dishcloth in same water inside and out and it will keep them from rusting. I have seen some wash the inside of a frying pan and put it away when the outside was thickly coated with scales of grease and dirt. It is a good plan to sun dinner pots after washing.

Mrs. M. L. Van Patten, Skull Valley, Ariz.—I clean all scraps from the plates and dishes and put them in the dish sink with moderately hot water well softened with borax or sal soda. Put in as many as I can conveniently whirl, and whirl them around briskly a few times. Then place on dish rack and pour clear hot water over them, let drain a little and place in cupboard at once. The cooking vessels, as soon as empty, have boiling water poured in them and closed. In a few moments, with the aid of a wire pot cleaner, the work is done.

Mrs. J. T. Palmer, Richmond, Me.—Sort plates and other things in piles, and have a big pan and plenty of hot water, soap and towels. Fine salt removes egg stains. Baking soda removes tea and coffee stains. Use a brush around handles and raised figures. Greasy pans I scrape with a knife and then rub off all I can with paper and burn the paper. Then wash with iron cloth and rinse and dry in the oven. My dish drainer is an old pan with holes punched in the bottom and my towels are made from cotton grain sacks.

Mrs. Jane Culver, Bristol, Conn.—I wipe everything as clean as I can with paper and then burn the paper. Then with hot water, soap and ammonia wash all clean and rinse and wipe. The water with the ammonia is poured around the rose bushes or anything else that needs it. The cat clears the pans for his meal.

Mrs. F. P. Lair, Paris, Ky., R. 3.—With hot water and a tablespoonful of washing powder I wash the glasses first with a tooth brush kept for the purpose, to clean cut glass or any uneven surfaces after washing. Rinse and turn upside down to drain, and they will look a great deal brighter than if wiped. After the dishes are washed in soapsuds, pour hot water over them in a pan and let stand till you clean the pots and pans, and they will need little wiping. I use bleached linen crash for towels, as it leaves no lint on dishes. When pots are empty fill with water and set on the back of the stove to steam, and they will be easily cleaned with a metal pot cleaner. After anything has been burned in a pan try scouring with ashes. I never use anything else. For greasy skillets try rubbing them with meal. It prevents getting the dish water so greasy, and is good for the chickens. Wash all cloths in plenty of soap and water and rinse and hang to dry, and when badly soiled burn them and make new ones.

Mrs. Rose Linder, Olney, Ill., R. 2., washes in the same general way. After the silverware is washed it should be placed in a pan and have hot water poured over it. Then put in the dishes to soak while you are polishing the silver and glass. For this linen cloth is best, but we find flour sacks do very well. While the dishes are draining clean the pots. I use the top of a fruit can and like it better as a scraper than the iron pot scrapers. Empty the scraping and fill with clean water and let soak while you wipe dishes and then wash them.

Mrs. Solomon Dixon, Snow Camp, N. C.—It makes pots and pans wash easier to put water in them as soon as they are emptied, and it saves time and labor to wash dishes as soon as the meal is over and before anything dries on them. If they do get dry, wet them and turn upside down a while and they will wash more easily. I use plenty of hot water and dry with a clean cloth. I prefer to take the frying pan out and rub the bottom on the grass before washing, for I wash it outside and inside, and this saves the washrag. Cleanliness is next to Godliness, so let us practice it in dish washing as well as in other things.

Mrs. J. S. Dunn, Three Rivers, Mich.—There are not many women who fancy or enjoy dish washing, especially the ironware. But even this is not such a job if they are washed while warm after using. Graniteware and porcelain stewpans and kettles are so much lighter and easier to clean that they should be more generally used. Milk utensils should be rinsed in cold water, washed in warm water and sal soda and then scalded. I cannot see the harm with a small family in packing away the few supper dishes and washing them with the breakfast things in the morning when you have your work dress on and are in a working mood.

Mrs. J. E. Ingram, Olney, Mo.—Wash the dishes after a meal before they dry, in hot soapsuds, and then rinse in clear water and put in the drainer and then sit down and dry them at your leisure. The cooking pots are easiest washed as soon as emptied, but if not then, pour hot water in them and cover and set where they will keep warm, and they will be easily cleaned.

Virginia Souder, Lander, Md.—I rub the plates and dishes over with a piece of bread, rinse grounds from cups and saucers. Put the drainer in the sink and as the dishes are washed place them in it and pour hot water over them. Take the drainer to the cupboard, and as they are dried, store them. They will need little drying, as the hot water will do that. A good drainer is an old dishpan with holes punched in the bottom. Put the pots on back of stove with a little warm water in them to soak. Rinse and scrape if needed and wash with clean water.

Mrs. G. W. Church, Townville, Pa.—As to towels for drying the tableware I have never seen anything equal to the linen crash hand towels that are half worn. When these begin to wear thin I take them for dish towels and get new ones for hand towels. They are soft and take up water readily. Never attempt to use any cotton cloths unless you wish to make yourself hate dish washing. Always have separate towels for tableware and tinware. When food has been burnt on anything, do not wash till it has soaked in warm water sitting on the stove and covered tightly. The steam will soften the incrusting and it can be easily scraped off with a knife. Do not rinse glass in boiling water, and it will also crack earthenware and make silver turn whitish.

M. S. Andrews, Farina, Ill.—We use tin and aluminum kettles on top of the stove, to avoid lifting stove covers and letting smoke out. They are lighter to handle and do not get sooty. We pour water into them as soon as food is taken out and use asbestos mats under them if the fire is too hot. We have used iron dishcloths but prefer an old case-knife for scraping. After cooking onions the skillet is heated well in the stove to drive off the odor.

SUMMARY.

Being only a man, it would seem that we should have nothing to say in regard to dish washing. One of our lady friends suggested this topic, and we now begin to fear that she was poking fun at the Editor, for she doubtless knew that every housekeeper in the land thinks that she knows all about dish washing, and we believe they do, for we have been perfectly overwhelmed with contributions. We have contracted the papers we have used and still there are enough which we cannot possibly use, to fill the remainder of this week's issue of the P. F. We have been struck with the fact that housewives in all parts of the country wash dishes in essentially the same way, and had we printed all the letters they would have been largely repetitions of what we have printed. We are very thankful to all the ladies for their letters, and only wish that it had been possible to use them all, but this was practically impossible. We notice that whenever we have a Pool topic in which the women of the farms are interested, we are certain to have an abundant response. Now we hope that those whose pretty papers have not been printed, will not be discouraged. We could not give up the entire paper to the dish washing, and have endeavored to present the papers from those who have heretofore been strangers to the Pool. The Editor has had some experience in this line. Once when our better half was taking a vacation we boarded a while at a nearby hotel. But getting disgusted with it, we determined to keep house. We got an oil stove and went to cooking. The cooking was all right, but the dishwashing was a problem. So we got everything about the house dirty and then sent for a colored woman and had all cleaned at once, and repeated the plan every few days. Since then we have often wondered how the women could stand the everlasting cleaning. It only shows that a woman is necessary to make a civilized being of a man.

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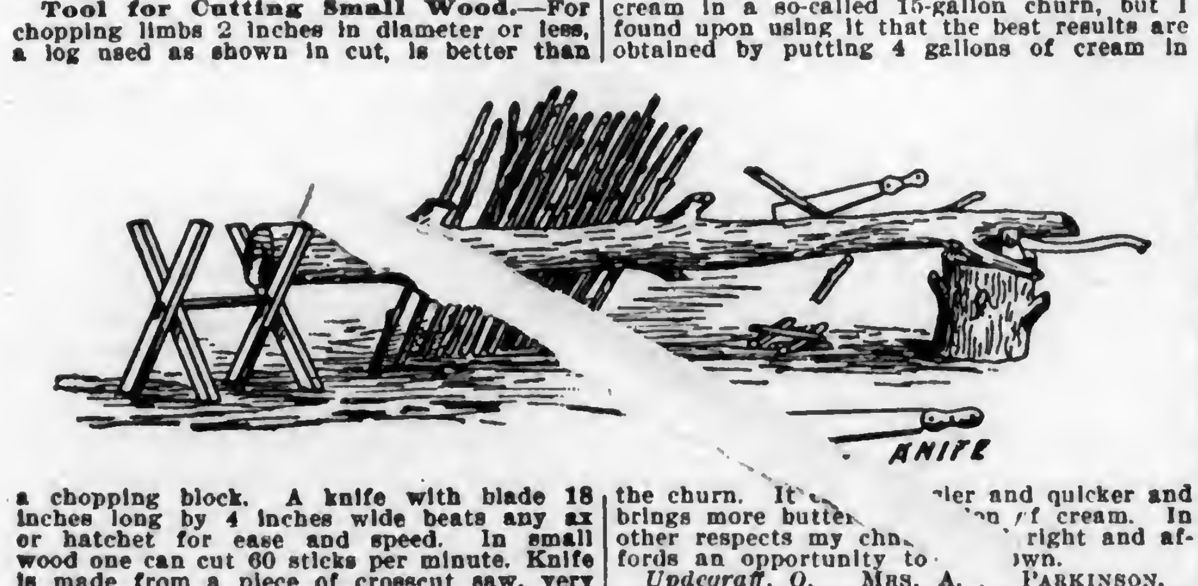
Farm Implement Annex
To The Practical Farmer.

It is the purpose of this department to assist P. F. readers in securing the best implements and machinery for doing their work, and to so adjust, manage and care for same as to get the best possible returns from their use. We invite subscribers to write us fully and freely in regard to farm implements and machinery. Pointers on selecting implements for various kinds of work and soil; on buying, operating and caring for them; their defects, improvements, attachments, adjustments, etc., will be welcome. A cash prize of 50 cents will be paid for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Put at top of each article For "Farm Implement Annex," and send to Geo. T. Pettit, Box 32, Oneida, Kan.

A Superior Disk.—As the disk harrow is an indispensable tool in advanced farming, I will give a brief description of the merits of the "Superior" disk. I think the name appropriate, as I have never seen another disk that will equal it. Being mounted on wheels, it is easily moved from one field to another, or over rough roads without injuring the disks and the wheels also make it easier to pull out or push into the shed. Each disk works independently of the others, with spring pressure so that in running over a stone or other obstruction, only one disk is raised out of the ground, instead of an entire side, as is the case with disks which work on a solid shaft. The disk is easily regulated to cut to any desired depth, being supported by wheels. In passing over hard spots lever can be pulled back, which tightens springs and forces disks in deeper without any change in angle of harrow. After passing the hard place, springs may be loosened to suit land of lighter nature. Thus a uniform depth is secured all over the field without carrying dead weight where not needed.

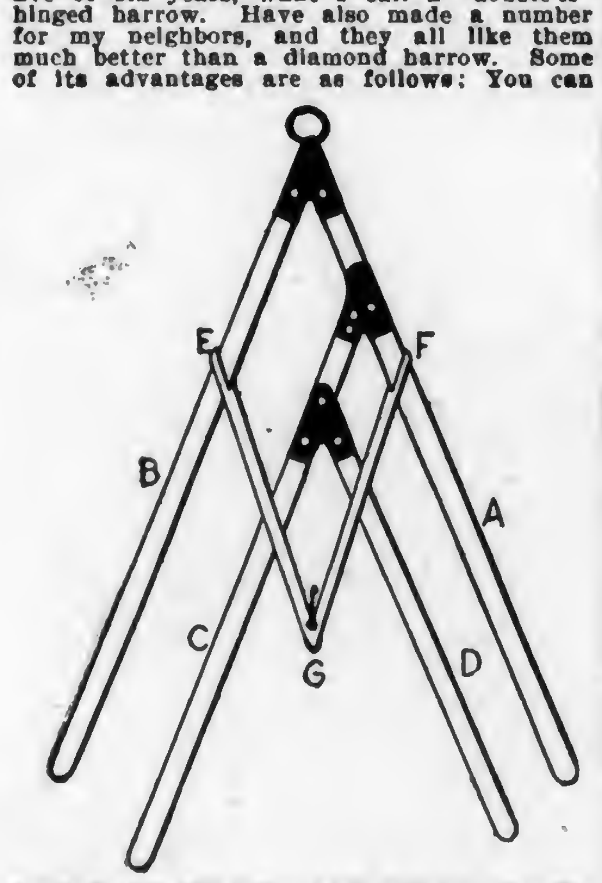
Nokesville, Va. JAS. T. FLORY.

Tool for Cutting Small Wood.—For chopping limbs 2 inches in diameter or less, a log used as shown in cut, is better than a chopping block. A knife with blade 18 inches long by 4 inches wide beats any ax or hatchet for ease and speed. In small wood one can cut 60 sticks per minute. Knife is made from a piece of crosscut saw, very hard, and must be ground very sharp and thin. It is fine for trimming brush and various other uses. The log should lie 30 inches from the ground, more or less, to suit the height of the man doing the work. Knots on log hold limbs in place as shown.



Calistoga, Cal. IRA W. ADAMS.

Double-A Harrow.—With all the different harrows that are on the market, the farmer cannot set aside the common spike-tooth harrow yet. I have made and used for five or six years, what I call a "double-A" hinged harrow. Have also made a number for my neighbors, and they all like them much better than a diamond harrow. Some of its advantages are as follows: You can make it any width you wish without changing the track of the teeth, as you will see by referring to cut. It is much easier to clean and get around obstructions and will not clog as quickly as the diamond. For the benefit of my brother farmers I will give diagram of harrow and instructions for making. The piece A, has a plate on top and bottom at end which fastens to B by bolt through centre of B. The pieces C and D are plated and fastened in the same way. E and F are lighter pieces bolted on top; be sure to make these on a perfect square or your harrow will not open and shut easily. To hold the harrow at any desired width, attach a hook at G and use a trace chain, putting ring over one of front teeth and hooking at G. You will see that this will hold harrow at any width you wish. To put in the teeth lay straight-edge along centre of harrow (the draft line). Put first tooth,



say 2 inches from line in piece B, second tooth in piece C, 4 inches from line; third tooth in piece B, 6 inches from line, and so on. You can make harrow as long as you wish and use as many teeth as you wish. I put teeth 10 inches apart, using 24 teeth for a harrow. W. E. STICKLEY.

Strasburg, Va.

Daisy Garden Plow.—I have a garden plow called the "Daisy," which I have had several years, and like it. The main standard is round pipe on which the several implements accompanying it are worked and can be set at any desired angle to work to or from the row. It has a large wheel and is so light that it is easily run and handled. As it is worked entirely with the hands, one can handle it almost as freely as a hoe. It is not best to use this kind of plow with a steady push, as the man-weight is used, but with a backward and forward thrust, with each step, usually. In this way it will work easier than a plow pushed steadily forward, and the pressure is not on the breast or abdomen as in the man-weight.

Kewanna, Ind. H. S. LOWRY.

Successful Water Gate. — In making water gates across creek on farm I have found the best plan is to set a substantial post on each side of creek close to bank; then put pole across creek resting against upper side of posts, the ends of pole being sunk into bank and its middle about 2 feet above the water. Now use pieces of 2x4, or round pieces will do, one resting on pole and other end on bottom of creek above pole. Place these pieces from 2 to 4 inches apart and sloping enough so all rubbish will wash over and not catch. Spike to cross pole and fasten other end in creek with stones or otherwise. Now fit gate between posts and hinge at top so it will swing and let water through in time of flood. Place boards in gate close together to keep brush from catching. If hogs push it open, fasten at bottom just enough to prevent. CHAS. E. RIDDLE.

Ute, Ia.

The Barrel Churn.—It is a great mistake to have the barrel churn too small. They told me I could churn 7 gallons of cream in a so-called 15-gallon churn, but I found upon using it that the best results are obtained by putting 4 gallons of cream in the churn. It [illegible] ler and quicker and brings more butter [illegible] of cream. In other respects my churn [illegible] right and affords an opportunity to [illegible] own.

Updegraff, O. MRS. A. [illegible] PARKINSON.

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BY PRACTICAL FARMER SUBS.

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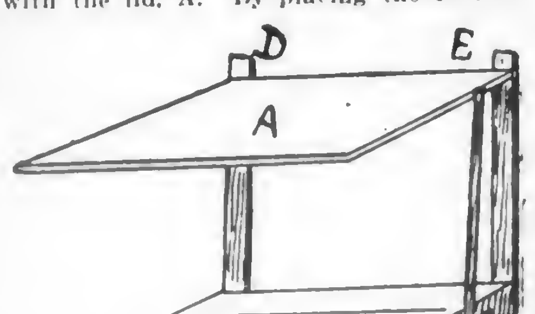
Holder for Slop Bucket with Cover.—A is a lid hinged at D E. C is a lever hinged at F, and having the rod, G, connecting with the lid, A. By placing the foot on

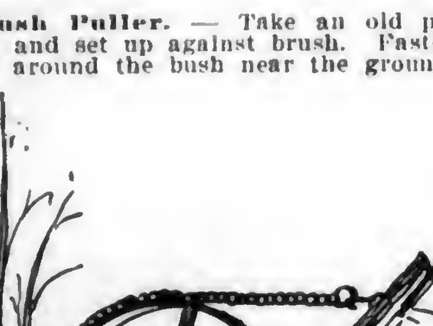


C, the lid can be raised to place the bucket on B, also for emptying slop, leaving both hands free to hold whatever you are emptying. IVAN ALLEN.
La Belle, Mo.

Hanging a Heavy Hog.—An easy way to hang up a heavy hog is to lean two poles up against a building, chain a round stick to the gambrel, then slip the stick up the poles, using a crotched stick on each side for props. I helped a neighbor hang up a hog that weighed 700 pounds, in this way, with little trouble. W. P. DOOLITTLE.
Palmyra, Mo.

Easy Butchering. — Three neighbors, living on adjoining farms, have discovered a way to save much bother and extra work at butchering time. All the preparations are made at one place and the hogs belonging to the other two are killed and loaded on a boat sled and hauled to this place, where they are dressed, the lard rendered, sausage made and meat all cured in one large vessel. At the proper time the smoking is also done in common. This neighbor has a large, roomy outhouse for the work, and we find that a large quantity can be cured better than when but one or two carcasses are cared for.
Rochester, Ind. J. N. ORR.

Brush Puller. — Take an old planter wheel and set up against brush. Fasten log chain around the bush near the ground and

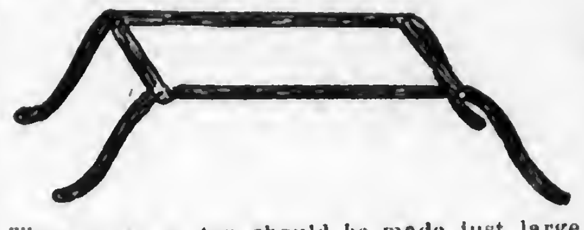


pass it over the wheel. Hitch team to end of chain and see the brush come up. Pull when ground is wet. W. R. POWERS.
Greenwood, Ind.

Making Post Holes.—A useful tool for making post holes is made by taking a piece of hard-wood (a young locust, seasoned, preferred) about 5 to 6 inches in diameter and 30 inches long. About one foot from end begin and sharpen to point and insert in a steel ferrule; fasten a band around other end to prevent bursting; about 4 inches from the band bore a ¾-inch hole through the beam in which put an iron rod and let project out on one side about 4 or 5 inches. Drive with heavy maul. Sharpen post before driving. This saves nearly half the work in making holes. L. F. KIRKPATRICK.
Mooresburg, Tenn.

Draining Cellars.—During a protracted wet spell, water is apt to rise in most cellars, producing mud and a state of dampness, neither healthful nor desirable. To correct this evil, if unable to afford a cement floor, or if there be no way to prevent by surface drainage, dig a continuous ditch 18 inches wide by 2½ to 3 feet deep in cellar, all around its outermost limits, removing the dirt as thrown out. This dirt may be used in grading or leveling depressions in the surface of land about the house. Next, place in bottom of this ditch a layer of medium sized stones, with a good distance between them. In laying the second course care should be taken to break joints, covering each of the spaces left in the first layer, and in turn leaving new open spaces between those as laid, the idea being to leave as much room in ditch for surplus water as possible. Proceed in this manner until within six inches of the top, when the last course may be fitted as compactly and close together as possible, closing all holes. Now add coarse gravel or broken rock, until within an inch or two of the top, and finish by leveling up with a portion of the excavated dirt.
Athens, Ga. H. B. MITCHELL.

Support for Wash Boiler.—To make a support for an iron wash boiler when wishing to use it outside, take an old wagon tire, or something similar, and bend as in illustration, riveting or bolting pieces together.



The square on top should be made just large enough to fit bottom of boiler like a stove. This is useful for campers to put pots and skillets on when cooking a meal.
Lamar, Mo. O. F. SUNSTEDT.

Tacking Comfortables.—The handiest and quickest way to tack comfortables is on the dining table. Lay down lining and put cotton on only half at one time, then put top on and tack as you would in frames. When done with this part turn other side to front and fill with cotton. One person can easily tack one in a day. You can rest yourself by using high chair to sit upon.

When Planting Small Seeds keep a wet cloth over top until plants begin to come up. This keeps the seeds in place while watering, besides keeping the earth from drying out. Your plants will come much nicer. MAY M. FIFER.
Port Republic, Va.

Altering a Vicious Hog.—Here is a way to alter a large, vicious hog without getting bitten: Fasten a pulley securely over your partition; now run the end of an inch rope through the pulley, making a loop in the end large enough for the hog to walk into; now place some feed in such a position that the hog will have to walk into loop to reach it. Let the loop slip pretty well back on hog and then pull down on other end and you will draw the hind parts up over the partition, where the operation can be quickly performed without anyone having to go in pen. Three of us altered successfully a 500-pound hog in this way. E. R. DAVIS.
Box 582, Cazenovia, N. Y.

Furniture Polish. — A good furniture polish, which gives a soft, oily finish to furniture and woodwork, is made of one scant ounce of linseed oil, one full ounce of turpentine and three-fourths of an ounce of elder vinegar. Shake it until thoroughly mixed. Then rub the furniture with the mixture, allow it to stand a short time, and polish it well with soft, dry flannel cloth.
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STARTLED

By some sudden sound she drops the vase upon the floor. She is nervous and may be told that nervousness is a luxury which only a rich woman can afford to indulge in. Nervousness has cost many a woman her position. Sometimes when women run machinery the price of nervousness is mutilation,—a finger lost or perhaps the whole hand crushed.

Nervousness in women is commonly but a symptom of womanly disease. It is useless in such cases to "doctor" for the nerves alone. Cure the diseases which attack the delicate womanly organism and nervousness will be cured also.

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STRANGLES.

STRANGLES is an acute, febrile disease affecting horses. It is most common in young animals and is characterized by swelling and abscesses forming between the bones of the lower jaw, sometimes at other points.

Symptoms. — Languor, dullness, loss of appetite, staring coat and general unthriftiness precedes attacks. The glands between the jaws are swollen and extremely sensitive to the touch. There is a rise of temperature, with increased pulse rate. Sore throat, is shown by food and water returning through the nose or dropping from the mouth. As the disease progresses abscesses in the glands point and break.

Treatment.—Animal should be placed in a well lighted, clean box stall where the temperature is fairly even and sufficient clothing should be applied to keep the animal comfortable. If temperature runs high, say 104 to 105 degrees Fahrenheit and the pulse is strong give 10 drop doses of aconite with half dram doses of fluid extract of belladonna in an ounce of sweet spirits of nitre three or four times a day.

If the throat is much irritated dram doses of chlorate of potash with two drams of powdered golden seal placed on the tongue three times a day after feeding gives good results.

Like all febrile troubles, strangles reduces the vitality. Tonics should not be neglected. Administer, as directed, regular doses of Dr. Hess' Stock Food—the most powerful of tonics and reconstructives. It is the only stock food formulated and manufactured by a regular graduate of both medical and veterinary colleges. If the medical and veterinary colleges know of nothing better than Dr. Hess' Stock Food it must be good. It gives vigor to both appetite and digestion and rapidly improves the whole systemic condition of the animal. Sold on a written guarantee, 100 pound sack $5.00, smaller quantities at slight advance.

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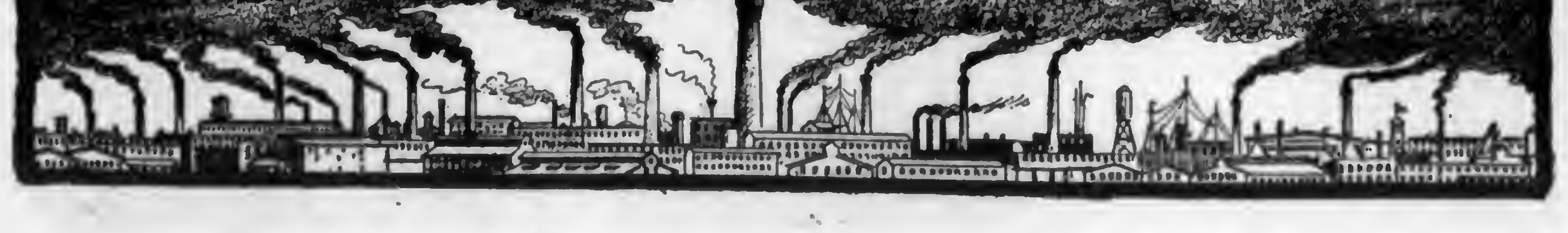

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Mistakes, Failures and Successes.

In this department we publish the Mistakes, Failures and Successes of our subscribers. They are equaly instructive and necessary, pointing the way to success. Subscribers are cordially invited to send accounts of efforts they have made which resulted in failure, as well as those which proved successful. Give in a few words your experience of anything connected with farm or household work. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Only helpful communications of value to P. F. readers will be accepted. The head of the column will be considered the position of honor each week. Send all communications to Geo. T Pettit, Oneida, Kan.

A Few Pointers on Alfalfa.—I noticed in this department of the P. F. of Jan. 10th, a communication from H. L. Savage, in which he says that alfalfa will not grow where there is hard-pan close to the surface. This is a mistake, as I have 10 acres of fine alfalfa which is ten years old, which yielded three tons of cured hay to the acre last year, and the hard-pan is within 6 inches of the surface on most of it. And there is in this valley about 1,000 acres of the same kind of land in alfalfa, and it has yielded good crops for years. The mistake with most growers is that they irrigate their young alfalfa too much the first year on land where the hard-pan is near the surface. Alfalfa should not be irrigated more than once the first year, but should be clipped about three times; for if irrigated much the young roots when they strike the hard-pan will spread out in all directions on the surface of it. But if clipped about three times and the clippings left to mulch the ground, the roots will go through the hard-pan. I know this because I plowed up some last year and pulled some roots up with point of plow that were 6 feet long, and the hard-pan was so near the surface that I could not get a good, sharp sulky plow to run deeper than 6 inches anywhere on the land, and some places not more than 4 inches. I think if the farmers of Boise Valley, Idaho, of whom Mr. Savage writes, will not irrigate their alfalfa three or four times the first year, as most of them do, they can raise it on their bench lands as well as on bottom land. The P. F. is the best farm paper I have ever read. Success to it and its editors.

Albion, Idaho. R. N. HOWELL.

Manure Shed O. K.—We will never regret building a manure shed on our farm, for besides making the barn warmer, it saves about half the manure that used to go floating down the roadside to the stream under the hill. Now, thanks to the P. F. and Mr. Terry, it is all saved to the farm.

Richmond, Me. GEO. L. PALMER.

Heavy Clothing. — Let heavy clothing hang from the shoulders. Sew a band on lining of wrapper or house gown at waist line. Work four buttonholes, two in front and two in back of band. Sew buttons to correspond on bands of heavy underskirts and button to dress lining. By this method all heavy clothing hangs suspended and the bundlesome bodices and uncomfortable suspenders are done away with completely, which plan I consider a success. AGRI.

White Pine, Tenn.

Boys' Clothing.—My family is all boys, and one of them lost his pocketbook and knife by a defect in a pocket of some new clothes. After that I carefully examined all pockets and gave them an extra sewing with strong thread, sewing all the buttons extra, too, for they are not safe. It is advisable to air clothing several hours before laying it away. Perchance a grease spot gets on; I take a little benzine and clean it off, then hang out to air. Keep benzine away from fire. ANNIE J. PADDICK.

Chouncey, Ill.

Egg-Eating Hens.—I presume almost everyone has had more or less trouble with hens eating eggs, and will be glad to learn of a way to prevent it or cure the habit. Give the hens plenty of exercise, with variety of food; gather eggs often; provide plenty of roosting places and keep one or more china eggs on the floor; have dark nests if possible, and give a meat diet. To cure the habit, provide dark nests and add meat to the food. Remove one end from a number of eggs and pour out the contents. Make a mixture of flour, ground mustard and red pepper, adding enough cold water to hold together. Fill the shells with this mixture and place on the floor of the hen house. The hens will make a rush for the eggs and will devour some of the contents, but will soon conclude that eggs do not agree with them. Repeat the dose until the hens will not touch them. Positive cures have resulted from this method. JOSEPH F. SCHENCK.

St. Catharines, Ont.

Preparing Land for Wheat.—The thoroughness with which the seed bed is prepared has much to do with the success or failure of wheat growing. If wheat is to follow wheat, as soon as the crop is removed the ground should be plowed to the usual depth. Then early in August begin the use of the disk harrow and continue its use every two weeks until seeding time. This repeated harrowing not only destroys nearly all the weed seeds, but the soil is left in the best possible condition for the wheat. If this work is properly done there will be no need of a second plowing. Very often when the plowing is neglected till just before seeding time, the ground is dry and hard, the upturned furrow being studded with lumps that several harrowings will fail to reduce to the desired fineness. In this case the best tool to use is a heavy land drag, directions for making which have appeared in the P. F. from time to time. Start it going soon after a rain, or use during cloudy weather, which will give better results than to use during the heat of the glaring noonday sun. On a good seed bed one peck less seed per acre will give better results than the usual quantity on a poorly prepared seed bed. Year by year the average farmer is learning the great benefit to be derived from the thorough preparation of the seed bed, not only for wheat, but for every farm crop. The drag and disk harrow I consider the best tools to use in making an ideal seed bed.

Smitum, Ga. WATSON ROPER.

Grafting Wax. — Having done a great deal of work in grafting fruit trees, and having been very successful, will say that we attribute the success very largely to good wax, which we make as follows: Three parts pure bees' wax, three parts rosin, and two parts of beef tallow. Put these into a vessel and melt over a slow fire. When all are melted, pour into cold water and pull until firm and tough; roll in sticks and it is ready for use. Age improves it. It will neither melt nor crack on the stalk. D. W. STAHL.

N. Jackson, O.

How We Keep Squash.—We cut our squash into small pieces, put into porcelain-lined kettle with water sufficient to cover the squash, and stewed till we could pierce with a fork. We then canned like fruit, intending, when the cans were opened, to stew the water out. This last we never did, as the squash failed to keep. We also stewed squash until tender enough to sift and filled cans with it, having it boiling hot, but this was a failure. Again, we cooked the squash till it was ready to use for pie, then molded into small cakes and dried them in a tin pan placed over a kettle of boiling water. In this way the drying was perfectly done, with no danger of burning. These cakes kept as long as required, and the pies made from them could not be told from those made of fresh squash. This method was a complete success. MISS E. A. BROCKETT.

Bristol, Conn.

Oxen on the Farm. — I think there is nothing in the way of a team that is more useful and convenient than an ox team. I have a yoke one year old last June that I have been working since last September. I crushed down corn stalks in the fall with them, and can use them in the spring for harrowing my land, hauling out manure, dragging logs and brush, etc. I keep nothing in the way of horses except mares, and they are either with foal or suckling all the time; oxen take many hardships off of them. One of the yoke is a bull that I stand at $1, which pays for the feed of the team, so that their growth costs me nothing. I expect to sell them when grown and raise some young ones to work. In my judgment they pay as well as anything we keep on the farm.

McKenzie, Tenn. JOHN E. EVERETT.

To Write Name on Iron or Steel.—Make a strong solution of blue vitriol and water in a bottle, being careful about it, as it is very poisonous. Cover the surface to be written on thickly with soap, being sure to cover every spot or the vitriol will mark it. Take a sharp instrument like a pin, or larger if desired, and write the name in the soap, being sure to mark through it. Now pour on the vitriol, leave a short time, then wash all off and your name will be written in the steel and cannot be erased.

Preventing Washouts. — On the hillsides here some of the farmers sow a wide strip of oats in the centre, putting the rest of the field in corn. The oats prevent the soil from washing. The black leather chatelaine bags, used so much recently, soon become worn and rusty. A little French shoe dressing will make them like new.

Red Bank Furnace, Pa. M. E. DAVIS.

Frying Down Pork.—Do not make the mistake of salting down all of your pork. I take nearly all of the meat that has some lean meat on it and fry it just enough to brown it a little; salt and pepper just right for the table, then pack in a crock and pour lard over it. As a rule, enough for this purpose will fry out of the pork. Press the meat down well, place a weight and leave over night. I remove all gristle and bone before packing, then pack in one gallon jars and tie a paper over the top. When I wish to use it I fry it just a little. Fixed in this way it is as good as fresh meat and will keep a long time. MRS. MARTIN STINSON.

Eden Center, N. Y.

A Use for Corn Stalks.—The farmer dreads the idea of having corn stalks all over his manure pile, therefore joins with his neighbors in cutting or shredding the fodder. As I have no shredder I feed my fodder on the stalk to the horse and cow. I pick up all the coarse stalks in the cow's stall and rack and throw them into the horse stall. The horse being in the stable most of the time with rough shoes on, breaks the stalks up fine so that they, with a little straw (I am short of straw), make good bedding and finally good manure. Another good way is to throw them into pig pens. The pigs will chew them up fine and they will at the same time help to keep the pigs clean.

Stony Brook Pa. HARRY BOLL.

Deep Plowing.—I wish to give the readers of P. F. my experience in deep plowing. In 1897 I moved onto the farm which I now own. It was very badly run down as a result of the way it had been worked. It had just been scratched over and had not been properly plowed. I purchased a 2-horse Oliver chilled plow and turned the land about 12 inches deep. My grandfather said I would ruin the land and would not make any corn either, but I went ahead and planted my corn. Several of the neighbors and grandfather looked over my corn before gathering time and said I would gather 45 bushels to the acre. The same land had not produced over 10 bushels to the acre before. I have been a subscriber to the P. F. for some time, and it has benefited me so much that I would not be without it. I now use all kinds of improved farm implements.

Spartansburg, S. C. ALEX E. BRYANT.

A WIFE'S CONFESSION.

How a Girl's Strategy Won.

Of course every one knew when they were engaged and every one pretended to be surprised when they heard it was suddenly broken off. It was first said *she* had broken it off, then that his heart had changed, but finally she confessed that she had been so irritable, so depressed and blue that she had fairly driven him away. Her good looks were vanishing. She was getting thin, pale, and hollow-cheeked, with dark circles around her eyes. Suddenly all society was pleased again to hear of the engagement being renewed, and it was not long before a beautiful and radiant bride was taken to the altar. She had regained her good looks, her former happy disposition and strong nerve all through a secret a friend gave her. A wife had confessed to her that she had almost driven her husband to suicide with her bad temper, her nervousness and irritability, and she had found that it all developed from a weakness of the womanly organs. A few months' treatment with Dr. Pierce's Favorite Prescription completely changed her; she had cured herself and again made the home happy. A few bottles of Dr. Pierce's Favorite Prescription is what made two more lives happy and a radiant bride more beautiful than she had ever appeared before.

Normally a woman should have no discomfort so far as feelings of distress are concerned, at each recurring period. But modern civilization has added its conditions of ever-present suffering to a large proportion of American women. The majority of such cases are due to local inflammatory or congested conditions which can be overcome by the right treatment. Of course, this local irritation is followed by headaches, backaches, nervousness, irritability, and, indeed, often results in nervous prostration or collapse which might have been avoided by proper treatment.

As soon as the organs essentially feminine get out of order, or a catarrhal condition exists, this disturbance is telegraphed throughout the whole system by the sympathetic nerves and the woman will suffer from pain in head and extreme nervousness. In all such cases an aggravating feature is usually HABITUAL constipation, and this should be corrected by the use of a good vegetable laxative just privious to the time for recurrence of the pains. The local disorder and inflammation of the delicate, special organs of the sex should be treated steadily and systematically. Doctor Pierce has advised his "Favorite Prescription" so many times in the diseases peculiar to women that he knows it's an unfailing remedy in most of the disorders of the sex. After using this remedy for many years in his private practice he put it up in a form that would make it easily procured and ready-to-use. It is not like the usual patent medicine—for it contains no alcohol—nor does it contain any narcotic, and it is *purely vegetable.*

ADVICE TO MARRIED WOMEN.

It is an evil day for the wife and mother when she scans her worn face in the mirror, and asks the question, "Does it pay? Does it pay to sacrifice health and happiness to wedded love?" But there is another question which rightly takes precedence of Does it pay? It is this: "Is it necessary to sacrifice health and happiness to wedded love?" Half a million women answer, No! They have been weak and have been made strong by Dr. Pierce's Favorite Prescription. They were sick and "Favorite Prescription" made them well. It will do the same for almost every woman who gives it a fair and faithful trial. It stops weakening drains, heals inflammation and ulceration and cures female weakness. It tranquilizes the nerves and encourages the appetite.

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Their financial responsibility is well known to every newspaper publisher and druggist in the United States, with most of whom they have done business for over a third of a century. From this fact it will readily be seen how utterly foolish it would be for them to make the above unprecedented and remarkable offer if they were not basing their offer on curative means having an unparalleled record. No other medicine than Dr. Pierce's Favorite Prescription could possibly "win out," as the saying goes, on such a proposition. But they know whereof they speak. They have the most remarkable record of cures made by this world-famed remedy ever placed to the credit of any preparation especially designed for the cure of woman's peculiar ailments. This wonderful remedy, therefore, stands absolutely alone as the only one possessed of such remarkable curative properties as would warrant its makers in publishing such a marvelous offer as is above made in the utmost good faith.

Mrs. O. O. Scripture, of Prescott, Ariz., L. Box 536, writes: "Words cannot express how grateful I am for what your medicines have done for me. For nearly two years I was a great sufferer with ulceration and enlargement of womb, also suffered severely with dyspepsia and was run down—a perfect wreck. I doctored for several years; got no better, until about seven months ago I began taking Dr. Pierce's Favorite Prescription and also his 'Pleasant Pellets.' I am nearly well now, can stand on my feet and work hard all day. I feel that life is now worth living, and shall ever feel grateful to you and shall always recommend your medicines to all who are suffering in any way."

"I feel it my duty to write a few words that may be of help to some sufferer," writes Mrs. Minnie Richmond, of Howard City, Mich. "For years I suffered with weakness and doctored with several physicians, receiving little help. Two years ago was taken so bad that I could not do my work. Went to a doctor and he said I had ulceration of womb. I doctored for months, but got no better, then wrote to Dr. R. V. Pierce, of Buffalo, N. Y., for advice. I followed his directions and after taking his medicines (three bottles of 'Favorite Prescription,' two vials 'Pleasant Pellets,' and using one box of your 'Lotion Tablets), was cured. I would say to those suffering, consult Dr. Pierce; it costs but little compared with expense of other physicians, and his treatment will do more good in one month than others will do in one year."

If you are led to the purchase of "Favorite Prescription" because of its remarkable cures, do not accept a substitute which has none of these cures to its credit.

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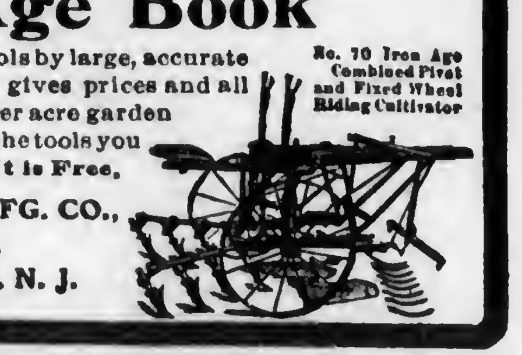

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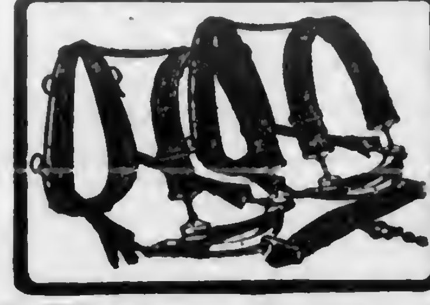

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This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

Located in New Haven township, 7 miles north of the twin cities, Owosso and Corunna. Owosso is a thriving city of industry, having all sorts of factories; a beet sugar factory in course of erection; largest in State. Corunna, the county seat, is 3 miles from Owosso, connected by electric cars. Farmers around here very energetic and well-to-do. General farming pays best. As our soil is adapted to a rotation of crops, clover, corn or beans, oats and wheat and a few potatoes are the leaders. Good horses, that bring from $100 to $200, raised; cows of the butter type, bring from $30 to $60 each; milk sent to butter factory. Last season was a "corker;" rained all the time, still crops were fair; corn and beans almost a failure; oats and hay good crops. Winter mild up to Feb. 18th, when it was 15 degrees below zero; good sleighing since Christmas. Wheat in good shape, as it has been covered with snow. Hired help scarce and wages very high, caused by the sugar beet industry, which is becoming quite a money crop. The prices of produce in Owosso are: Hay, $6 to $9 per ton; corn, 48c.; beans, $1.75 to $1.80; oats, 34c.; potatoes, 50c.; wheat, 60 to 75c. per bu.; fowls and chickens, 8 to 9c.; butter, 16 to 18c. per lb.; hogs, live, $6.25 to $6.90 per cwt.; eggs, 14c. per doz. The soil here is a clay loam and sells at from $50 to $100 per acre. DORRIS D. MATE.

Owosso, Mich., March 9, 1903.

Situated in Southern Hamilton Co., surrounded by railroads, manufactories, schools, churches and truck gardeners. Weather is pleasant. Truck gardeners are preparing to plant their usual acreage. Business of all kinds is opening up and we are looking forward for 1903 being one of the most prosperous years in the history of Hamilton Co. Milk dairies are quite numerous throughout the county. Stock of all kinds wintered well. Wheat is looking tolerably well. The following prices prevail in our market: Cattle, 4 to 4½c.; calves, 4 to 6¾c.; hogs, 5 to 7¾c.; lambs, 4½ to 6½c.; chickens, springers, 12 to 13c.; hens, 11½c.; turkeys, 16c.; ducks, 14c.; butter, dairy, 13 to 16c. per lb.; potatoes, 50 to 60c. per bu.; onions, $1.75 per bbl.; hay, $13 to $16.50 per ton.

H. WALTER WALLACE.

Cincinnati, O., March 10, 1903.

The first half of January nice to farm here this year, and most farmers made the best out of it by planting potatoes, peas, oats, wheat and vetch; in fact, so to speak, did a "land office business." Then we had a wet spell the last half of the month and from the first of the present month up to the present we have had nice sunny days and some farmers have been plowing in the afternoons; the ground plows up nice and loose like garden. Well, P. F. friends, I drove to Oregon City yesterday a team of mules; the first time in my life I was guilty of such a trick; took potatoes and a dozen old hens; sold hens for 9½c. per lb. feathers and all; potatoes for 60c. per sack of 100 lbs. Wheat, 75c. per bu.; oats, $1.20 per cwt.; clover hay, $12 per ton; creamery butter, 65c. per 2-pound roll; eggs, 25c. per doz; milch cows, $25 to $50 each; dressed hogs, $7.50; beef, $2.50 to $4.75, gross, per cwt.; veal, 7 to 9c. per lb.; apples, 50 to $1.50 per bu. Best wishes to P. F. and patrons.

J. L. MUMPOWER.

Stone, Ore., March 3, 1903.

Located in Jefferson Co., 3 miles from Birmingham, the county seat and the most prosperous and rapidly growing city in the South. Jefferson Co. has a population of 185,000, a court house costing over $500,000, and over 200 miles of macadamized roads. Greater Birmingham has a population of 98,250, a city hall costing over $200,000, and about 150 miles of street railway. Birmingham handled 125,000 bales of cotton during 1902. Eight railroads enter here. Iron and coal, mining and manufacturing are the principal industries. Greatest local market for truck farmers in the South. Truck farmers have many disadvantages here they do not have at many other places. Farm labor scarce and very inferior; the better class of laborers go to the public works, where they can get $1.50 to $2 per day. Very few up-to-date farmers. Land, as a rule, poor and extremely high for farming purposes, prices ranging from $40 to $100 per acre. Corn, 63c.; oats, 52c.; potatoes, 80c.; sweet potatoes, $1 per bu.; hay, timothy, $22; bran, $20; cotton seed meal, $24.50 per ton; eggs, 20c.; hens, $5 per doz.; cabbage, 1c.; onions, 2c. per lb. Dairy products in good demand and high. Farming and gardening very backward, owing to too much rain. P. F. is growing in popularity.

J. E. HALE.

Birmingham, Ala., March 9, 1903.

We are located in Botetourt Co., 14 miles north of Roanoke City, on the N. W. R. R. Land is adapted to fruit and truck, rather than grain. We have had more rain this winter than we have had for years. Plowing is behind; scarcely any winter plowing. Wheat is looking fairly well. Prices are as follows: Eggs, 25c. per doz.; butter, 25 to 30c.; chickens, dressed, 12½ to 15c. per lb.; hay, mixed, $10 to $15 per ton. Hands scarce at $15 per month. E. HOUTZ.

Troutville, Va., March 10, 1903.

Situated 40 miles west of Baltimore, Md. The counties of Howard, Frederick, Carroll and Montgomery join at a stone at my spring, known as "Pass Spring." Frederick county is one of the finest farming counties in the United States. Wheat, corn, rye and tobacco are our principal crops; hay is also very extensively raised. Feed is very scarce here at present. Farm labor has been hard to get on account of the improvements the B. & O. R. R. have been making here. The market has been good here for produce, which the farmers furnished the railroad labor. We have had zero weather; a good deal of snow and bad weather generally from the 1st of December, 1902. About one-half fall plowing done. We had a fine crop of corn; plenty of crops made 15 barrels per acre. There are a great many dairy farms; we market our milk in Baltimore and Washington, D. C. Corn, $2.50 per bbl.; wheat, 76c.; rye, 56c. per bu.; hay, timothy, $17 to $20; rye straw, $14 to $16; wheat straw, $10 to $12 per ton; potatoes, 60c. per bu.; fodder, 5c. per bundle; land, $40 to $75 per acre. DAVID SMITH.

Mt. Airy, Md., March 10, 1903.

We are located in the southern part of Nuckolls Co., Neb., 11 miles north of the Republican River, which separates Kansas and Nebraska for nearly 50 miles. The Republican Valley is very rich and productive; the principal crops are corn and wheat in this country, considerable alfalfa being raised in late years. Land is worth from $20 to $40 per acre; town lots, $10 to $100 each. Prices: Corn, 29c.; potatoes, 40 to 50c. per bu.; eggs, 10 to 12½c. per doz.; butter, 11 to 12c. per lb.; cows, $20 to $40 each; chickens, 7½ to 8½c.; turkeys, 10 to 12c. per lb.; hogs, $6.60 per cwt. MRS. J. B. ADAMSON.

Nora, Neb., March 7, 1903.

Located 13 miles southwest of Newberry, which is the nearest railroad station, 10 miles east of the famous Suwannee River. We don't have much cold weather here; a little frost and ice some time during the winter. The land is light and sandy. The principal products are Sea Island cotton, which produces one bale to four or five acres, worth $60 to $75 per bale; corn only grows 8 to 15 bushels to the acre, and is worth at present, 75c. per bu.; pork, 6c.; butter, 25c. per lb.; sweet potatoes, 35c. per bu.; land is worth $5 to $50 per acre; if well improved it is worth more; eggs, 10c. per doz.; grown chickens, 25c. each.; horses, $25 to $150, according to age, size and quality; mules, $100 to $200 per head; wages on farm, $10 per month. R. S. TUCKER.

Judson, Fla., March 6, 1903.

Located in the southern part of Franklin county, 9 miles south of Winchester, the county seat, on the N. C. & St. L. R. R. Have had a very wet winter, but not very cold. The principal crops are wheat and corn, oats, clover and cow peas for hay. Prices as follows: Corn, 50c.; oats, 35c.; cow peas, $1.25 per bu.; hay, $10 to $15 per ton; hogs, 5 to 6c.; cows, for beef, 2½ to 3c. per lb.; milch cows, $15 to $25; horses, $50 to $125 each; hens, 9c. per lb.; eggs, 11c. per doz.; butter, 20c. per lb. Farmers behind with their work on account of rain.

S. H. TAYLOR.

Maxwell, Tenn., March 9, 1903.

Located in Connecticut Valley, in Northern Vermont, 10 miles south of St. Johnsbury, where the Fairbanks Scales Works are. Plenty of snow since November. From our hilltops Mt. Washington, 20 miles from here, can be seen. This is a fine apple country, but only a few good orchards can be found. Wages, men, $1 to $2.50 per day; women, $2.50 to $4 per week; good hay selling for $10 per ton; eggs, 15c. per doz.; butter, 25c. per lb.; corn meal, $1.35; bran, $1.15 per cwt.; poultry, dressed, 12c. per lb.; potatoes, 75c.; onions, $1.60 per bu.

ETTIE STROWBRIDGE.

West Barnet, Vt., March 9, 1903.

Located in Sherman, the county seat of Grayson Co. Winter mild, with a great deal of rain; so much, in fact, that no field work has been done since the middle of last December. Usually by March 10th all oats are sown here, but at present not a seed in the ground, on account of the rain. Wheat and volunteer oats look fine. Prices: Butter, 25 to 30c.; chickens, 11c., live weight; hogs, 6¼ to 6¾c. per lb.; eggs, 25c. per doz.; corn, sacked, 58c.; wheat, 80c.; oats, 50c. per bu.; hay, prairie, $8 to $12; alfalfa, $14 to $16 per ton; wheat bran, $1.10 per cwt.; middlings the same; cows, $20 to $30; horses, $50 to $100; mules, $75 to $175 per head; beef cattle, 3¼ to 3½c. per lb. Farm help, $15 per month; good land, $20 to $40 per acre. Fine schools. WILL SHELTON.

Sherman, Texas, R. 1, March 6, 1903.

Located in Piedmont section of North Carolina, southern part of Montgomery Co., 4 miles west of Jackson Springs, on A. & A. R. R. We have had a mild winter, with plenty of rain. Not much farm work done on low lands. This section is a sandy loam. The principal crops are corn, cotton, rye, wheat, oats, sweet and Irish potatoes, cow peas and sorghum cane. Prices: Land, from $1 to $20 per acre; corn, 75c.; wheat, $1; rye, 90c.; peas, 80c.; oats, 55c.; sweet potatoes, 65c. per bu.; cows, from $15 to $30 each. Farm labor plentiful at from $6 to $10 per month and board. Good citizens are welcomed. H. S. POOL.

Marcus, N. C., March 9, 1903.

Located in Southern Illinois, on Ill. Cen. R. R. Country about Farina a prairie, adapted to general farming and fruit raising, with abundant timber surrounding at a distance of three or four miles. Corn, wheat, cow peas, fruits and vegetables do well. Strawberries, hay and stock raising the money industries. A very large acreage of the former will be set this spring. The February freeze again killed the peach buds. A co-operative creamery and a canning factory to be built this spring, will bring additional prosperity to farmers. Prices: Land, $25 to $60 per acre; corn, 37c. per bu.; hay, $13 per ton; hogs, 6½c. per lb.; good work horses, $75 to $125 each; farm labor, $15 to $17 per month; carpenters, $2 per day.

MRS. J. COON.

Farina, Ill., March 9, 1903.

ARMSTRONG & McKELVY Pittsburgh.
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add to these qualities durability and low price, and you have a perfect roofing, which is

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Can be put on a new roof, on old shingles or tin. It's soft and pliable, being easy to put on and becomes as hard as slate. Send for Free Sample and Circulars.

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Samson Windmill Stronger than The Storms

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You buy it for a long time and your money entitles you to the best. No other piece of machinery has as much constant wear. The mill that stands the weather—fair and foul—365 days and nights in the year must be built right or go to pieces. Better buy right once than wrong many times. Our

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is the result of years of study and the expenditure of large sums of money, which have produced a perfect mill. The **Samson** is the very acme of windmill construction. All others are merely windmills; the **Samson** is more than a windmill—it is a wind *machine* built on scientific principles that place it far and away ahead of all others.

Among its many **strong features** found on no other mill, stands most prominently its **double gear**, which in reality is two sets of gears or two pinions and two spur gears engaging each other, and making two trains to transmit the power of the wheel to the pump. This feature is the most valuable one ever incorporated in a windmill. With its four bearings, in place of one, the strain of the load is distributed to four points, giving the very minimum of friction, resistance and wear, and the maximum of power and endurance and doing away with all overhanging strain. This double gearing and its bearings retain their rigidity and tightness under all conditions. The **Samson** has five times the strength of any other windmill using a like amount of material and at the same time is the lightest running of any on the market. Other points of superiority are many, among them durability, high-grade material, skilled workmanship on all parts, easiness of running in slightest breeze, detachable boxings, perfect brake and governor, double pump rod and guide, wick feed oilers, etc. You should know more about the **Samson**. We tell the story in a beautifully **illustrated booklet** that has cost us thousands of dollars to print. It is yours for the asking. Write today. You will be glad if you do.

THE STOVER MANUFACTURING CO., - Dept. J, Freeport, Ill.

THE PRACTICAL FARMER.

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THE KEYSTONE TO SUCCESSFUL FARMING

Published Weekly By
THE FARMER CO.,
Market & 18th Sts., Philadelphia, Pa.

AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

A Low-Down Top Box That Will Carry a Large, Bulky Load.

It must be about a quarter of a century ago that the writer had occasion to draw many loads of stove wood, sawdust, potatoes, etc. These articles are bulky and it requires a large box to carry a heavy load. Other people were using a common top box above regular wagon box, when they wanted to carry a large load. In the West they now use two top boxes to carry large loads of corn. This makes a very high box to load into. It is no wider at top than at bottom, just three 3x10 feet wagon boxes, one above another. I wanted a top box that would carry as large a load as one of these 3-story boxes and be lower down to load into. I wanted it fixed so it could be taken off or put on easily in a minute. There was nothing of the kind on the market, so I went at it and drew out the plans, took them to a shop, and in a few hours had one set fixed for our smallest wagon. I have drawn 66 bushels of potatoes, 2 tons, to the depot on this wagon, although that was filling it rather over-full, to go a long distance with, unless one had springs. The potatoes would work down and roll off some. That set of side boards has carried many loads to market. It has brought home many bulky loads. In fact, it has been in frequent use all these years, and is still pretty good. The box is strong enough so we have put a large load of hay on, when not going to move enough to pay for getting out a regular hay rack. Liking the first side-boards so well, we got some for a second wagon, a larger one. They are still nearly as good as ever. This wagon will carry about one-fifth more than the other, and is no higher. Plans and specifications were put in the P. F., years ago, and also very full drawings and pictures in "Our Farming," published by The Farmer Co. It is a little strange, but I do not know that one single set of these side-boards was ever made by any farmers in our township, although they are the handiest thing for the purpose designed I ever saw, and they cost but little. Every once in a while when away from home, however, I run across a man who has them in use. The last one was J. E. Wing, of Ohio. He was telling at an Institute the other day about making them particularly to draw loads of manure from town, about a mile away. It cost him about 25 cents a load, and put on all he could. A man would send word that he had three or four loads and Mr. W. would go and put all on at once. This before he learned to enrich his farm with clover, and while he was getting the poor spots rich enough for alfalfa. I cannot imagine any better box for drawing bulky articles, such as those named above, and corn, pumpkins, bran, etc., etc. They enabled the writer to do much more in a day, when there was anything bulky to move, for years.

Balancing Stock Rations in the South. — One of our young readers, Hugh Brown, Morristown, Tenn., wants to know if one can afford to sell wheat at 75 cents a bushel and buy bran or shorts at a dollar per hundred. Again, he says: "We can raise rye, barley and oats; would you advise buying feed where one has the grains mentioned? The common practice here is to feed corn only, as the grain ration." Yes, I would sell wheat at above prices and buy bran or shorts to feed with corn, corn stalks, straw, etc. These products are short in protein for cows giving milk, young growing animals, horses, etc. A pound of wheat contains .102 of protein. The pound of wheat will buy 1¼ pounds of bran or shorts, at your figures; 1¼ pounds of wheat bran will contain .152 of protein. A pound of shorts or middlings will probably contain a very little more protein. You can see that by the exchange of wheat for bran or shorts you will have about 50 per cent. more protein to go with corn, stalks and other products that are deficient in this nutrient. And this is an important matter for farmers to learn who feed now only corn as a grain ration. Now rye, barley and oats are not very far out of balance as feeds by themselves. And the same may be said of wheat; all fed together the grain would be pretty nearly right. But corn is not, by quite a little. Corn stover, timothy hay and straw are very greatly out of balance. They are very short of protein. You must feed some roughage with the grain. Now if that roughage be either of three articles named above, then it would be wise to sell some grain and buy bran or shorts, or something else that will furnish more protein. To a limited extent cottonseed meal may furnish you protein cheapest in the South. It contains about three times as much as wheat bran, but it cannot be safely fed in large quantities. Now if you were feeding clover hay as roughage, or cow pea hay, then a mixture of your home grown grains would do pretty well. Clover, and cow pea hay, contain much more protein than corn stalks, timothy hay and straw. Whenever you are feeding these last named rough feeds you want something to go with them containing more protein than wheat, barley, rye and oats.

How to Make Chances for Timothy and Clover Seeding Better. — H. C. Klope, Marion, Ill., writes, in substance, as follows: "I sow timothy seed on wheat land in September or October, and clover seed in March. I usually get a stand, but sometimes dry weather prevents the timothy from making a stand, and destroys the clover in July or August. If it escapes the dry weather it sometimes is lifted out of the ground by freezing and thawing. What can I do to prevent these troubles?" To prevent injury to timothy seeding by dry weather in the fall, right after sowing, first plow the land for wheat as soon as possible after spring crop is off. Then harrow down as fast as plowed, if weather is at all dry. Work land much, when it is dry, always, so as to make it fine and mellow, but firm, clear down through. There should not be any little air-spaces; that is, open places, in the soil. Then from time you plow until crop is put in, keep surface stirred as soon as it is dry enough to work after every rain, or wet spell. The idea is to save water from evaporation and waste; to keep all you can in the soil for the crops, and have soil also in the best condition for crops to grow. Now if you want to be as certain as possible of making timothy do well, sow it and wheat in good season. In latitude of Northern Ohio, September 10th is none too early. On soil fertile enough to grow a paying crop of wheat timothy should be a certain crop if put in as above. If land is only half prepared, and perhaps just before seeding time, and seed sown late, dry weather following will be likely to prevent a catch. If your subsoil is gravel, perhaps you cannot prevent the clover from dying out in a dry time in July and August. If it is not, then I think you can. Sow your wheat rather thin; that is, do not seed over-heavily, so as to produce a large growth of straw. You will probably get as much grain, and the clover will get a better start in the spring while the ground is wet. Then cut the wheat as high as you can readily, leaving considerable stubble standing. As soon as weeds start up in this and get 8 or 10 inches high, mow them off, stubbles and all, leaving this on the surface for a mulch. Do this in a showery time if you can, and not when it is very dry and hot; but do it anyway. The growing weeds use up water rapidly. Cutting them off saves this and mulches the surface some—two helps. If one allows weeds to grow in a stubble with clover when it is dry the chances are that he will lose his seeding. It takes some 300 to 400 pounds of water to grow one pound of dried weeds. Keep weeds from growing and save this water for crop Keep all stock off of the young clover. If clover is lifted out the first winter, or spring, by freezing and thawing, there is but one remedy; that is to tile drain the land. If it is the second winter when damage is done, no matter, as it should be plowed then, anyway. The damage from dry weather will be less if you keep your land well supplied with vegetable matter, as this holds moisture in the soil; prevents it from running off over surface or leaching down when rains come. The rotten logs and leaf mold you speak of hauling will help some, but usually it is cheaper to grow materials on the land, practice rotation, save manure, etc.

The Telephone for Farmers. — We have had one in our home nearly two years now. It is very convenient, and a good thing in many respects. The farmer generally will not use one so much for business purposes as the business man in town, or those who live in town and trade there. Such will have frequent occasion to telephone orders, or make inquiries. Those living out in the country will do some of this, but not usually as much. In case of accident, or sudden sickness, the ability to get a doctor quickly is of value. A man was hurt at our next neighbor's by the falling of a building. A young man ran over to our house and called up a doctor. He said he would be there in 15 minutes. In 13 minutes he passed our house, two and a half miles, with horse on the run. Think of what this would mean in case of croup, or cholera morbus in the night. Our central is always open, night and day, Sundays and week days. Wife was in Painesville one day and had something important she wanted to say to me. We had a talk just as plain as though it had not come over 60 miles of wire. Any telegraph message coming for us is telephoned over, saving us $1.50 for delivery, which we have had to pay sometimes. If we are looking for freight we need not go up for it until they tell us it is there, the same with feed, or anything we may wish to purchase, and no matter whether it is in our town, or Akron, or Cleveland. The Hungarian seed Robert sowed first last fall failed to grow; time was precious and in 5 minutes he found a dealer in the city who had good seed and it was sent out, on the electric package car, that runs near us. One morning Robert started for Cleveland. I took him to the car. Just as I got back our bell rang, and I found Robert had got off at the next town, having forgotten something, and, after talking to me, in two minutes he was on a return car and I on my way to meet him, and in twenty more he was started for the city again. The telephone is often very handy. These are just little illustrations. Why, the church people do not have to drive over any more when they want some cooking done for an entertainment, or a little money. However, a law against begging by wire would not be a bad thing.

But now there is one way that the telephone helps the farmer's family very much, and still harm is done, too. We cannot always have unmixed blessings. The telephone relieves the usual isolation of the farm home greatly, More particularly for the women, perhaps. In talking with many men, I find they usually think the wife cares more for it than they do. Wife and daughters can talk to their friends any hour of any day, and they enjoy it. However, as the novelty wears off they will do less of this. But no matter how muddy it is, how hard it rains or snows; no matter if roads are impassable, they can practically bring any friend right into the room and have a chat in a single minute. This feature of the country telephone is grand; but, my good friends, I must say to you that it has its dark side. Anyone who has used a 'phone long must have noticed it When you go over to visit Mary you haven't anything particular to say. It has all been said from time to time over the 'phone. It is like reading a weekly newspaper after you have perused the daily every day This is the weak side of the telephone in town or country for the women. It tends to make one care less for calls and social visits among those you can reach by 'phone. Of course it will not stop all visits, but there is a tendency that way that one should guard against. This improvement has come to stay—unless we get something better; it is a good thing, and still it has this weak side. But get a 'phone into your home just as soon as you can, connecting you with friends and neighbors. We are in one of the old established companies We pay $12 a year, and can reach some 200 families free, and most anywhere by paying, as we can connect at central with long distance lines. If you cannot at present connect with a central exchange, put up a private line connecting half a dozen or so neighbors, owning your own outfit. Soon others will do the same. By and by these lines can unite and establish a central. The writer talked on this question a year or so ago at Minnesota Institutes some, and one of the workers, A. W. Trow, went home and started the matter at once in his neighborhood, and they now have 146 families connected by wire. Let the good work go on. But do not neglect to visit your friends as often as heretofore.

T. B. Terry.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Alfalfa, etc.—John Humphrey, Clark, N. C.—"I have a piece of alfalfa sown last September. It is very small and some of it looks red. The roots seem to be growing but not the top. It is sown in rows 18 inches apart, and there is a very good stand. Land is a sandy loam with red clay six to ten inches down. Land made a crop of potatoes last summer. After they were dug the land was plowed to keep down the grass. In August we spread cow manure all over it, and broke deep and sowed the alfalfa in September. Late in October I spread some hard-wood ashes on some of the rows, but do not see yet any good from it, and it is very little better where a load of manure was dumped than where it is thinner. The ground is covered with green winter weeds. Would lime help it, or would nitrate of soda be a good top dressing? Do you think that a young man 22 years old, with a fair common school education, has been on a dairy farm for ten years, attended the 1902 short course at the North Carolina College of Agriculture, and likes to doctor animals, could get any benefit from a correspondence course in veterinary science?" We are of the opinion that the best thing you can do for the alfalfa is to clean it out and free it from the chickweed and other winter growth, and then give it a moderate dressing of lime, say ten bushels of fresh lime per acre. Then as soon as active growth begins, watch it and if you see any signs of its turning yellow or red put the mower on it and clip it over. Having it in rows will make it easier to clean the weeds out. The soil is probably not infected with the microbes that live upon alfalfa roots, and if there are no nodules on the roots it will pay to apply some nitrate, but it will not be necessary if the roots have nodules on them. Two or three mowings the first summer are essential to the success of alfalfa. There is no doubt that the young man you describe would benefit greatly from a good correspondence course, though of course not so much as he could by attending college and being present at clinic and dissection. But having a natural bent in that way he will be helped very much.

Corn Breeding in Georgia. — M. E. Bemis, Scottdale, Ga.—"Your recent editorial on corn breeding is of a good deal of interest to us, as we want to make 600 tons of ensilage besides corn for ten or twelve mules. It has seemed to me ever since I came South that the soil and climate here ought to produce larger yields of corn than are commonly grown. We take pains in selecting seed corn in Vermont, and with the flint variety which we have to raise there, on land that is not any better than the land here, we get a great deal better yields. We have a fairly good piece of bottom land that is not likely to overflow, and will be a distance from any other corn, and I shall try to select seed corn from this. What variety would you advise to use for this purpose? Would you plant it early or late? We shall probably plant about 125 acres in corn. Will it pay us to get seed of some of the so-called improved varieties of the Southern White Dent, or will it be about as well for this season to select the best ears in the same old way, and then try to select seed from the lot planted for the purpose?" There is not the slightest doubt but that Georgia soil will make as good crops of corn as New England, or better, if intelligent attention is given to the selection of seed. What we want in the South is a corn plant which will grow short-jointed and will produce its ears not more than half way between ground and tassel. Much of our corn as it now exists will, on good land, put the ear out of reach and have but a short top above it. My ideal corn plant will have fully as much stalk above ears as below. Getting a corn with such a stature in place of the leggy corn of today, and producing two or more ears per stalk, we can more than double the yield per acre without increasing the fertility of the soil. We would go to work with the corn you have, for it is acclimated. Follow it up year after year, and do not expect to change it entirely in a season. Patient working towards a well settled ideal will finally get you what you want. Then when you finally get a corn which you can plant, as we do, in rows three feet eight inches apart and with stalks ten to twelve inches in the row, bearing two to four ears on a stalk, you can easily see that there will be a heavier crop than from single-eared stalks standing five to six feet apart each way, as you can see all over the South. Planted as we see farmers all around planting corn on upland, the corn that made, at the College, nearly 90 bushels per acre, would not have made, on the same land, 20 bushels with the single eared and long legged corn selected from the crib. We would not advise you to go anywhere else to get seed, but start at once to breed up the corn you have. In your elevated section and climate, rather cold for the latitude, we would plant the seed patch as early as the ground is warm. This will probably be later on the bottom than on the upland, but we would take as much of growing season as possible.

Onions in New Hampshire. — C. W. Barker, Exeter, N. H.—"Please tell me through the P. F. the best formula for a complete fertilizer for onions composed of the following chemicals; nitrate of soda, acid phosphate and muriate of potash to be used at the rate of one ton per acre on land that has been dressed with good stable manure for two years past." No crop grown can use as large a dressing as a ton per acre of a high grade fertilizer, and experiments in your section have demonstrated that after you pass the amount of 1,100 pounds per acre the profit decreases though the crop may be somewhat increased. All the work of the Experiment Stations in New England have sown that New England soil, as a rule is particularly deficient in potash, and potash is used there in a higher percentage profitably than anywhere else we know of. Then, too, the best fertilizer for onions cannot be made with the chemicals you propose. Nitrate of soda is excellent and a good source of nitrogen; but it is evanescent in its action, and unless you have nitrogen present in some organic form in the fertilizer the crop will feel the loss when the nitrate is used up. Onions, like other scaly bulbs, need plentiful supplies of potash. Hence we would advise the same fertilizer which we have often recommended and which has been used with success with such crops on sandy soil. To make a ton mix 900 pounds of acid phosphate, 600 pounds of tankage or of fish scrap, 100 pounds of nitrate of soda and 400 pounds of muriate of potash. On land that has been manured liberally for two years with stable manure, we would use of this not over 1,000 to 1,200 pounds per acre.

Forage Crops in Pennsylvania.—H. W. Roeder, Smethport, Pa. — "1. How would Canada peas and oats compare with corn fodder with corn left on the stalks and cut fine for cows? 2. What kind of pea and how much seed per acre is best? 3. Do you think Hungarian grass would do well here? 4. Is there any difference in the feeding value of winter or spring bran for cows in milk?" 1. Canada peas and oats will make a better balanced ration for the cows, having a larger percentage of protein than the corn, and hence would be better fitted for milk production, but the corn fed with clover hay would also be an excellent feed. 2. We do not know that there is a great difference in varieties. We have usually seen the Canada peas sold simply as Canada peas and do not know of any particular varieties. The best mixture would be two bushels of oats and two of peas per acre, sown as early as the ground can be prepared. 3. Hungarian grass will doubtless do well with you if sown after the soil is warm, and on strong land. It will make a good crop of forage far inferior to corn fodder. 4. We do not know that there is any great difference in the bran from winter or spring wheat, but would suppose that if there is any it may be in favor of the spring wheat bran, but we hardly think that there would be difference enough to amount to much.

Silk Culture in the South.—A Maryland correspondent sends a newspaper clipping in regard to experiments proposed in North Carolina in the breeding of silk worms and the making of raw silk, and wants to know if she could learn more of it by visiting the State. There has been some talk of trying to inaugurate the breeding of silk worms in North Carolina, but if anything of a practical nature has resulted from it we cannot discover. So long as the Chinese work for a few cents a day we cannot see how our people can compete with them in the production of silk. Many years ago there was a great furor in this country over the making of silk here, and thousands of dollars were made by men who went into the propagation of mulberry trees, and more thousands of dollars were sunk by those who bought the trees and tried to breed silk worms. The Morus Multicaulus fever of two or three generations ago was enough to show that the culture cannot succeed under our conditions, and we would not advise anyone to move South with the idea that they can make a living with silk worms. You can make more money growing cotton in North Carolina than you can in growing silk. It is argued that silk culture is light work and that the women on the farm can do it profitably. While we are not enthusiasts in chicken raising, as all know, we are sure that the women on the farm needing light work, can do ten times as much with chickens as they can with silk worms. With silk worm eggs at $3 an ounce we had rather put the $3 in an incubator of hen eggs, by a long ways.

Making Crab Grass Hay.—"I have a tract of creek bottom land which has been in cultivation at least thirty years, most of the time in cotton. It is level and apparently good land, though it rarely makes a good crop of cotton on account of the rust. For nearly 30 years it has been worked by renters, and I suppose has had but little help except in the way of small applications of commercial fertilizer. This is my first year with it, and I want to make a crop of hay on it, as it is well set with crab grass and not weedy. How shall I treat it to get the best results in hay?" Treated as you say this land has been, there is nothing surprising in the fact that it rarely makes a good crop of cotton. It would be rather surprising if it made a good crop of anything after thirty years of skinning. The best way to get a good growth of crab grass on it would be to spread stable manure over it. But we suppose it is hardly worth while to suggest this, as probably it is not to be had. The next best thing for the crab grass will be to give it a dressing of 100 pounds of nitrate of soda per acre as the crab grass starts to grow, and not sooner. What we would do with it under the circumstances, would be to sow it in cow peas as soon as the land is warm, and give them 300 pounds per acre of a mixture of five parts acid phosphate and one part muriate of potash. The land being full of crab grass seed, this would grow, too, and you will have a great deal heavier and better crop of hay than you would of crab grass alone. And the crab grass will make it easier to cure, though there is nothing easier to cure than the cow pea vines themselves.

Fertilizers in Indiana.—J. D. Robinson, Otisco, Ind.—"A few farmers here have been mixing their own fertilizers for some time. We use 1,700 pounds of acid phosphate, 200 pounds of potash and 100 pounds of nitrate of soda, to make a ton. In the last two years the nitrate has given us trouble. It makes the mixture clammy so that it does not drill well. What is the next best thing to use, and what ought it to cost at Nashville, Tenn. They claim the acid phosphate to be 14 per cent. What is the correct analysis of the same. Please give me the correct analyses of the formulæ on this slip. A neighbor is trying to sell these goods here and we do not understand what the 'equivalent to' means." One of the analyses sent is as follows: Nirogen, 0.82 to 1.65 per cent., equivalent to ammonia 1.00 to 2.00 per cent.; available phosphoric acid, 7 to 9 per cent.; total phosphoric acid, 9 to 11 per cent.; potash K2O actual, 2 to 3 per cent.; equivalent to potash sulphate, 2 to 4 per cent. Whenever you find a fertilizer manufacturer giving a sliding scale of percentages you may be certain that the lowest figure is nearer the truth than the highest. There is no reason why a manufacturer who is accurate in his work should not give the exact or rather the lowest percentage claimed. This is required in some States, notably in North Carolina. The "equivalent to" is simply put in to make the farmer think there is more in it than there is. Ammonia is a hydride of nitrogen. That is it has hydrogen associated with it and hence a small percentage of nitrogen will be equal to a larger percentage of ammonia. You will find in the book which you say you are reading, a table showing how to change the percentage of nitrogen into ammonia and *vice versa*. What the above means is that the article has about .82 per cent. of nitrogen, 7 per cent. of phosphoric acid available to crops and 2 per cent. unavailable, and that it has 1 per cent. of potash. The symbols K2O simply mean potash or the oxide of potassium. The article is a very low grade fertilizer. The price is said to be $20.50 per ton. Rating the phosphoric acid and the potash both at 5 cents per pound it would show that at the price named you would be paying more than 76 cents per pound for the little nitrogen that it contains, or more than five times its usual cost in an article carrying nitrogen, like nitrate of soda. It is never cheap to buy low grade fertilizers. The only things that need concern you in a fertilizer are the percentages of nitrogen, available phosphoric acid and potash. All the other things are put in there to make it look bigger. We suppose you want the fertilizer for oats, and the mixture you have been making is not the best for this purpose, for oats need more nitrogen than wheat. Some form of organic nitrogen would be better than the nitrate. We would suggest the following: Acid phosphate, 1,200 pounds; tankage, 600 pounds, and muriate of potash, 200 pounds. This would give you a high grade fertilizer that would analyze approximately 6 per cent. nitrogen, 9 per cent. phosphoric acid, and 5 per cent. potash, and a small amount of this would give better results than a larger amount of the other and would probably cost about $33 a ton, and would be worth three tons of the article you send the analysis of. The analysis of the acid phosphate is doubtless correct, as the Tennessee phosphate runs sometimes as high as 16 per cent.

Acid Phosphate. — C. R. Bashore, Bethel, Pa.—"What should I pay for acid phosphate and where can I get it?" Acid phosphate is worth, here, now, $10 per ton, and can probably be bought for less by the carload, for cash, in Baltimore. You can get it from any manufacturer or dealer in fertilizers. These manufacturers are losing money by not advertising these materials in the P. F. See ad. of E. Mortimer & Co.

Liming Land in Wash. — J. K. Schoby, Centralia, Wash., has 35 acres of land which are generally under water all winter, and sometimes till late in spring. This land has been in oats or peas for ten years, but now is less productive, and quite a lot of sorrel has started on it. "Would it pay me to use lime on this land? A seed agent claims that he has a spring vetch for sale. Is there a spring vetch?" Your land is evidently sour, and such being the case a liming will be of great benefit to it. Cicia Sativa is called indiscriminately winter vetch and spring vetch. It is pretty well naturalized all over the South Atlantic States and grows all winter. In the North it would doubtless do as a spring vetch. But it does not make near the growth which the hairy vetch does. Then there is a spring vetch known as Vicia Caroliniānum, which is of stronger growth than Sativa, and is a true spring plant. Its flowers are nearly white in color. Vicia Cracca is very much like the hairy vetch and is often mistaken for it. On strong land, which is well infected with the microbe that lives on the vetch, the hairy vetch will grow ten feet long. We took up a plant on the 24th of February that was three feet long, and weighed three-quarters of a pound. Canada peas and oats should be a fine crop in your section

Buying Fertilizers. — J. W. Leary, Coleraine, N. C.—"I want to buy chemicals to make my fertilizers. Commission merchants in Norfolk refuse to quote prices on anything they do not sell. The factories overcharge, and persistently refuse to sell their goods to us for cash, as they want 20 per cent. commission for agents and 15 per cent. for themselves, so that a man with the cash is not a desirable customer. Please put me in correspondence with someone who will sell sulphate and muriate of potash, and a house that does no business here." It may help you to write to E. Mortimer, 17 William St., New York, who advertises chemicals in P. F. The Virginia Carolina Chemical Co. controls the entire trade south of the Potomac, and the chances are that no matter where you get the goods you will have to pay what the trust rates are in Norfolk. Some day the American people will break up these monopolies, and until they do they will have to pay the price demanded by the trusts.

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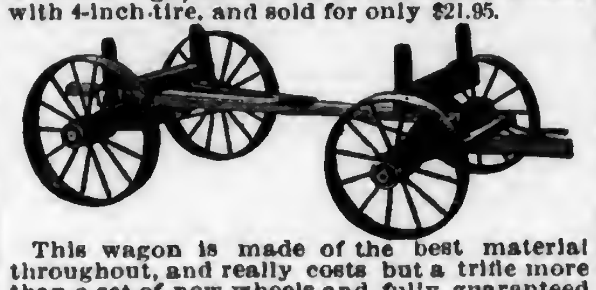

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March April May

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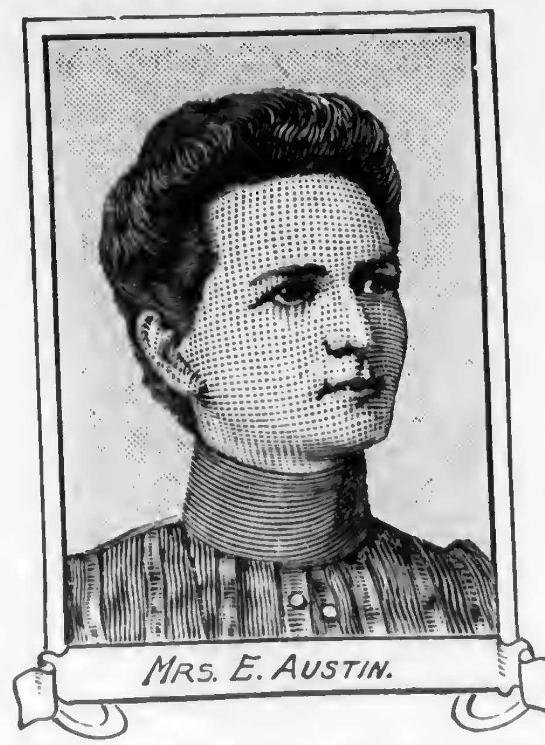

MRS. E. AUSTIN.

An interesting letter to our readers from Mrs. E. Austin of New York City.

New York City, Nov. 9th, 1902.

A little over a year ago I was taken with severe pains in my kidneys and bladder. They continued to give me trouble for over two months and I suffered untold misery. I became weak, emaciated and very much run down. I had great difficulty in retaining my urine, and was obliged to pass water very often night and day. After I had used a sample bottle of Dr. Kilmer's Swamp-Root, which you so kindly sent me on my request, I experienced great relief. I immediately bought of my druggist two bottles and continued taking it regularly. I am pleased to say that Swamp-Root cured me entirely. I can now stand on my feet all day without having any bad symptoms whatever. I was in the hospital in February last, before I used Swamp-Root, and the doctors examined my kidneys and said there was no trouble there, but after hearing so much about Dr. Kilmer's Swamp-Root, and what it had done for other women, I concluded to try it, with the result that today I am well again.

Gratefully yours,

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If you are already convinced that Swamp-Root is what you need, you can purchase the regular fifty-cent and one-dollar size bottles at the drug stores everywhere. Don't make any mistake, but remember the name, Swamp-Root, Dr. Kilmer's Swamp-Root, and the address, Binghamton, N. Y., on every bottle.

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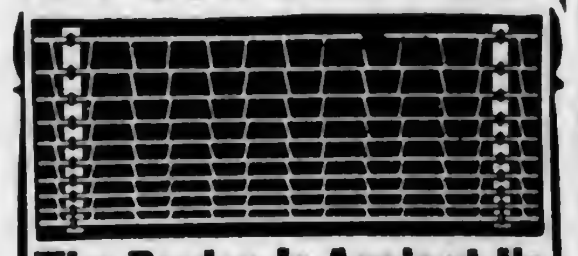

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Cabbage and Potatoes in W. Va.—A. G. Fansler, Hendricks, W. Va.—"I wish to make a fertilizer for cabbages and potatoes. Land is an upland clay limestone, part in sod and fairly well manured with barnyard manure hauled directly from the stables during fall and winter and spread broadcast. The other part was in cabbage last year and was manured with barnyard manure and hard-wood ashes and made about ten tons of cabbage per acre. It is now covered with buckwheat straw and chaff, which I will plow under and then dress with barnyard manure and lightly with hard-wood ashes, as the supply is limited. I wish to use a mixture that will increase the yield. How should the chemicals be mixed and what kind of a filler should I use? Would the stable manure and straw furnish nitrogen enough? I cannot get the chemicals nearer than Baltimore, and the freight is $5.60 per ton. Acid phosphate will cost $9 per ton and muriate of potash $45 to $50 per ton Is this not high? The dealers in ready mixed fertilizers say the farmers cannot mix the ingredients properly and cheaply, and they are asking for goods that have 1 per cent. nitrogen, 8 per cent. phosphoric acid and 1 per cent. potash, $25 per ton." A fertilizer for cabbages and one for potatoes should be differently compounded, and the fact that different crops need the ingredients in different percentages, is the best possible argument for mixing them at home. Cabbages need a far higher percentage of nitrogen and phosphoric acid and less potash than potatoes. Hence the same mixture would not be so good for both. The claim of the dealers that farmers cannot mix the goods properly is an old story. They know better, for with good materials, a good barn floor and a sand screen, the farmer can mix his fertilizers just as well as the factory, and more cheaply to him at least. We would have confined the manure to the land that is to go in cabbages and would have depended on the sod and the fertilizers for the potatoes, and there would be less danger of having a scabby crop. We had far rather have had simply the sod with the fertilizers for the potatoes and the cabbages could have used profitably all the barnyard manure you could put on them. But it is largely quackery to advise a special formula where one is not acquainted with the soil on which the fertilizer is to be used. Every farmer should study the needs of his soil, so as to be saved from the necessity of buying what he does not need. Under the conditions you name we would put the sod land in cabbages, though really the best for the potatoes, rather than repeat the cabbage crop on the same land. For the cabbages we would mix 1,200 pounds of acid phosphate, 700 pounds of tankage and 100 pounds of muriate of potash, to make a ton, and would use it at rate of 700 to 1,000 pounds per acre. For the potatoes we hardly think that you will need much nitrogenous fertilizer after what has been done for the land this year and last. Therefore we would make the mixture for these 1,200 pounds acid phosphate, 400 pounds tankage and 400 pounds of muriate of potash. A mixed fertilizer rating 1-8-1 will be worth, at seaboard, about $12 per ton for the plant food it contains. This is the grade of fertilizer in which worthless fillers are used to make them seem cheap, when they are really very high priced for all that is worth anything in them. You will need no filler at all if you buy good materials and mix them well. Fillers are simply to enable manufacturers to prepare low grade goods for farmers to pay big freight rates on. The prices you name are about right, but the freight rate is awful. But as the American people seem fond of trusts and railroad monopolies they will have to bear the burden they put on themselves. When the people of the country really want to get rid of these things they have the power to do it.

Cabbages and Tomatoes. — B. E. Smith, Conover, N. C.—"In my garden cabbages will begin to grow off very nicely at first. Later, they begin to turn yellow at the bottom leaves, and these fall off, and the trouble continues till the whole cabbage is dead. The garden will grow anything else very well except tomatoes. These rot just as they are beginning to ripen. I plow my garden in the winter and manure it with stable manure in the spring. Please advise me." There has been no remedy found for the fungus that causes the disease known in the South as "yellow sides" in cabbage. It is caused by a fusarium similar to the one which causes the cotton wilt in South Carolina. The soils become infected, and the only thing is to put cabbages on fresh soil and never to follow cabbages, turnips and radishes on the same plat. Liming the soil may do some good, and perhaps some cabbages, like some cotton, may be found resistant to the disease. The rot in tomatoes can be largely prevented if taken in time. Spray the plants with Bordeaux mixture as soon as set in the garden and then spray at intervals till the fruit is well grown. This will largely prevent the rot of the fruit, but will have little effect on the worse trouble of Southern blight, which is caused by bacteria within the plant, and which spraying will not reach. Liming the soil will have a good effect on both cabbages and tomatoes, especially where the garden has been heavily manured for some years. Then also drop the manure for a year and use commercial fertilizers heavily on alternate years. We have found on an old garden that fertilizers will give better results for a while than stable manure.

Corn Smut. — R. W. Scott, Junction City, Kan., says that he bought some of Maule's Drought Proof corn and planted it by itself, with sorghum between it and the other corn. It grew well considering that it was planted when the soil was dust dry, but it developed a large amount of smut. He thinks the smut was on the seed. He now has a lot of it for seed and would like us to tell him how to treat it. The season was excessively wet, and the cobs broke easily when shelling. Smut in corn is more commonly from infection of the soil or manure from cattle eating smutty corn fodder. Cows can eat smut with impunity and the manure will get infected with the spores. There is no conclusive evidence that the smut gets into the corn plant at any time after the first germination. It then grows within the plant during the summer and finally produces its fruit, a mass of black spores in the place where the ear should be. The wet season was favorable to the development of the smut fungus. It is possible that the seed may have spores on it, and hence it will be well to treat it, though not likely to do much good if the soil is infested. We would suggest that it may help to soak the seed in a solution of formalin. Put eight ounces of formalin, which can be had for about 50 cents a pound at drug stores, or less in large quantities, in fifteen gallons of water. Sprinkle the seed corn thoroughly with this and dry it off in plaster. This may have some effect if the spores are on the grain, but if the land is infected it will not do much good.

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KRAUSERS' LIQUID EXTRACT OF SMOKE.
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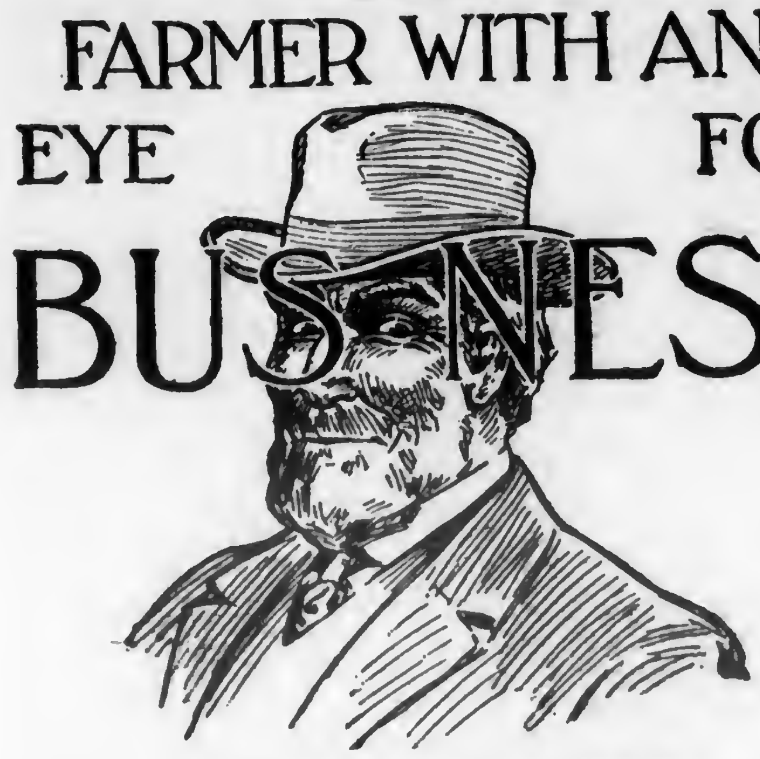

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The Protection of Cattle Against Tuberculosis by Vaccination.

Some experiments on the vaccination of cattle against tuberculosis have been published by Dr. Leonard Pearson, State Veterinarian of Pennsylvania, and by Dr. S. H. Gilliland. These experiments were conducted at the Veterinary School of the University of Pennsylvania, with the support of the State Live Stock Sanitary Board. The work has been in progress more than two years, thus antedating all other work along this line, for the German investigations of Von Behring did not begin until July, 1901. No other investigations of this sort have been reported in any other country than in the United States and Germany. The process used was to inject into the vein of the animal to be protected a small quantity of a suspension of tubercle bacilli non virulent for cattle. This procedure, called vaccination, may be repeated several times with gradually ascending quantities. The immediate effect is to produce a passing fever following each injection, which does not annoy the animal enough to cause it to lose a single meal. The general health is not disturbed by the process of vaccination. When the series of vaccinations is completed the animal had an astonishingly high degree of immunity to tuberculosis. In the last experiments completed four young cattle were used. Two of these were vaccinated last March. All four were inoculated in July by injecting into the windpipe a quantity of culture of virulent tubercle bacilli. A large quantity was introduced and each of the four animals received exactly the same treatment. These animals were killed in October. It was found that the cattle that had not been vaccinated were extensively tubercular, showing alterations of this disease in the windpipe, lungs, throat and intestinal glands; while the two vaccinated animals, inoculated the same time, from the same material, and in the same way, were free from tubercular infection and were sound. Dr. Pearson considers that this principle of immunization as applied to vaccination against tuberculosis of cattle is proven and it now remains only to work out the details of the method. This important work is being continued on a larger scale for the purpose of ascertaining the simplest and shortest practicable method of vaccination. It is not yet known how long the immunity will last nor what the ultimate effect upon the animal will be. So far, however, as the few experiments here and in Germany show, no fear need be anticipated of unfavorable results in these particulars. What is needed now is the painstaking use of the method on a few tubercular herds kept under careful and continuous observation. A scrupulously careful trial on a limited scale under proper conditions will do more to furnish the information needed to answer the few remaining questions upon this discovery than any amount of general use under less careful supervision. In the estimation of the investigators it would be premature to apply this vaccination to herds until such further experiments are completed. An effort will be made to secure State aid for experiments on a scale large enough to solve this most important problem.

◆

Horse Collars.—It is an awkward, unpleasant thing to do to put a horse collar on by thrusting it over his head, giving it a turn and then moving it down to place. All horses do not take to this operation kindly, and make their displeasure known when the groom is crowding the collar over the widest part of the head at the point of the eyes. I have seen horses, when the nose was just entered into the opening of the collar, thrust their heads through with a rush as if to get through with the unpleasant operation as soon as possible. In fly-time the one who places a collar on a horse, is very apt to get bounced about by the horse suddenly moving his head to one side to fight an annoying fly. Hardly a person that handles horses much but that has been jerked off his feet or balance many times. To avoid such troubles a few have their horse collars made to open at the top, and when placed on, the ends are fastened together with buckle and strap; but this is very inconvenient for a short person to do, as he cannot see what he is about and has to be guided by the sense of feeling. A German has obviated all these difficulties. He has his collars made to open at the bottom. He puts one end over the horse's neck, slides it down to place and fastens it at the bottom with strap and buckle. What objection can there be to this method? None. What benefit? All that it is possible to be.

Dr. Galen Wilson.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 1016 Davis St., Evanston, Ill., who has editorial charge of this department. All inquiries requiring answer by mail must be accompanied by a fee of $1 each.

Cough.—Will you give me a remedy for my hogs? I have about 40 head They begin to cough a dry cough and droop and linger until they won't eat and get cold and die. When they take the disease they last three or four days. Is anti-toxin serum a special benefit to swine? G. M. Clark.
Crouse, N. C.

Where cough occurs in a herd of swine the usual thing we expect is the presence of dust and dampness in their sleeping quarters. It is not only possible for hogs to suffer from pneumonia, but it is a common complaint among them when exposed to wet and cold. It comes on as a common attack of catarrh and rapidly involves the lungs. Where there is no possibility of cold being the cause of the cough we would suspect, in the absence of dust, worms in the intestinal tract. It is well, therefore, to treat for worms unless cold is present. At the same time it should be stated that worms do not usually cause death, so that in your case pneumonia or cholera may be present. Should a hog die a careful post mortem examination should be made, when it will be an easy matter to tell whether cholera is the disease, for in that case the mucous membrane lining the intestines will be found studded with red spots and similar spots also appear on the liver and lungs. See that your hogs have a clean, dry place in which to sleep and keep it free from dust. Use disinfectants freely about the pens and even upon the hogs if a contagious disease is found to be present. For cough give, in chronic cases, glyco-heroin in drachm doses every three or four hours in a little slop. Where not chronic apply strong liniment to the throat and give 20 grains of muriate of ammonia and five drops of fluid extract of belladonna leaves in the feed three times daily. Feed soft, easily digested food and in it mix flaxseed meal or jelly. Anti-toxin serum is used as a preventive of hog cholera and it would be well to try it if cholera is about.

Cow Pox.—I have a cow very strangely affected. Was giving milk when taken sick. First complained for a day or two, then would stand and groan, showing signs of great pain; then fever developed in her udder, and yellow blisters formed and discharged a yellow matter with blood. Her teats then turned black and are now peeling off and shedding skin. Has had appetite from first, until last two days. I poulticed udder with bran poultice for two or three days. The fever has now left her udder, but seems to have internal fever. J. B. H.
Gallatin, Tenn.

The cow has suffered a severe attack of cow pox, and will recover in time. Give her a pound dose of epsom salts, one ounce of saltpetre and one ounce of ground ginger root in two quarts of warm water. Follow with an ounce dose of hyposulphite of soda three times daily for a week in drinking water or soft feed after the physic has ceased to operate. Sponge the udder twice daily with a solution of one ounce of hyposulphite of soda in a quart of soft water. Keep her separate from other cows and wash hands after milking her. She should be milked last, or by a different milker than the one milking the other cows. The disease is usually spread from one cow to another by the milker.

Partial Paralysis.—Will you please tell me what ails my sow? She would walk on her front feet and drag her hind parts; had no use of them. She is now able to walk, but her hind parts wabble. Is in good condition and eats heartily. Her feed now is corn with bran and milk, with a run on green wheat; run on rape all summer and did well. Is with pig, but not heavy. Some neighbors say they have them that way and they get all right for a while then break down again and finally die.
Basin, Okla. J. W. Clifford.

As a rule, we find this condition to be due to excessive feeding of corn to swine, so that there is a softened condition of the hams of the legs and lack of development of the muscles of the loins. If you will add dried blood meal and a little bone meal to the food of growing pigs from weaning time and feed less corn to boars and pregnant or suckling sows the trouble will cease. Give the sow such foods as middlings, bran, flaxseed meal, dried blood meal and milk, and no corn. Add a succulent food, such as rape, roots or silage to keep bowels open. Rub her loins well twice daily with soap liniment. Were she not in pig we would also give her fluid extract of nux vomica, commencing with five drops three times daily in a little water, and increasing one drop daily until muscles were seen to twitch involuntarily when original dose should be gone back to and repeated. When a hog goes down paralyzed behind, a double row of deep holes should be made with red-hot firing instrument on each side of the spine at loins.

Scratches. — About two months ago I bought a large Norman mare that had the scratches on both hind legs, which were badly swollen and very sore. I have them pretty well healed up, but they are swollen yet.
Maryville, Tenn. D. C. Williamson.

Keep her in a roomy, clean, well ventilated box stall. Do not wash legs unless absolutely necessary, and then always dry them thoroughly with sawdust. Feed a bran mash two or three times a week. Give her a tablespoonful of Fowler's solution of arsenic night and morning, with syringe, in mouth. Stop this medicine gradually as she improves, but do not stop it suddenly. Wet legs several times daily with solution of one ounce of sugar of lead and two ounces of glycerine in a quart of soft water. Apply bandages after working or exercise. Wet legs before putting on the bandages.

Grease. — I have a horse 13 years old that has always been fat and lively, but for the past three months he has been losing flesh and spirits; two weeks ago his right hind leg began to swell, and in just a week

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I don't mean that it can turn bony joints into flesh again; but it can cure the disease at any stage, completely and forever. I have done it fully 100,000 times.

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I mean that exactly. If you say the results are not what I claim, I don't expect a penny from you.

I have no samples. Any mere sample that can affect chronic Rheumatism must be drugged to the verge of danger. I use no such drugs, and it is folly to take them. You must get the disease out of the blood.

My remedy does that even in the most difficult, obstinate cases. It has cured the oldest cases that I ever met. And in all my experience—in all my 2,000 tests—I never found another remedy that would cure one chronic case in ten.

Write me and I will send you the order. Try my remedy for a month, as it can't harm you anyway. If it fails it is free.

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Mild cases, not chronic, are often cured by one or two bottles. At all druggists.

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a sore gathered and burst just above the ankle joint on the outside of leg. I kept it poulticed and it has stopped discharging and has begun to heal, but under the fetlock the leg has begun to be raw and looks as if there was going to be a sore there. He has a ravenous appetite but don't gain a bit. E. S. LOUGEE.
Bristol, N. H.

As there is some suspicion that this may be a case of farcy, it would be well to have him examined by a qualified veterinarian. If it is not farcy then it is grease, and this comes, usually, from overfeeding and lack of exercise. Stop all grain feeding. Feed bran mashes, carrots and hay. For a few days poultice part with hot flaxseed meal, mixing two tablespoonfuls of powdered wood charcoal and two drachms of carbolic acid in each poultice. After discontinuing poultices, when part is clean and all discharge ceases, wet leg often with a solution of one ounce of sulphate of zinc in a pint of water, and give horse plenty of hard work or exercise every day. If this does not soon effect a cure and disease is not farcy, give a tablespoonful of Fowler's solution of arsenic night and morning, with small syringe, in mouth. Always dry legs well with sawdust, should you have to wash them.

Chronic Cough.—I have a mule twelve years old which has had a cough about two years. Cough is worse at night. At times there seems to be a rattling or snoring in throat. Moderate work seems to be helpful, but coughs worse when driven, just at start. Cough gets better in summer and fall.
Leo, N. C. W. D. REED.

For chronic cough of this nature we know of nothing so effective as glycoheroin (Smith), which is given in one to two-ounce dose every three or four hours, with small syringe, in mouth, according to severity of case. Also see that stable is kept clean and well ventilated. Wet all food.

Navicular Disease.—I have a horse 7 years old, lame in both forefeet; began with knuckling over, pointing first one then the other foot, toe on ground. When driven, trots without lameness, but stiffly, and steps short; stumbles now and then; rarely throws. In walking steps short, with feet carried forward, knuckles every time on foot that leaves ground with a jerk; stumbles sometimes; after walking some seems to go better and knuckling less apparent; carries tail out and has outward movement of hocks. Backs easily and steps over logs, etc., without stumbling. LEO W. ZORIN.
Salem, Ore.

We wish to compliment you highly upon the excellence of the sketches accompanying your inquiry. It is quite evident that navicular disease is the cause of the lameness, and unnerving is the proper treatment. It is useless, however, to merely sever the nerves; they will speedily grow together again. An inch and a half of nerve should be removed, and even where this is done a nerve tumor sometimes forms and serves to connect and re-establish original function of nerve. Your veterinarian should be willing to operate again free of charge. Do not blister the shoulder.

Barren Sows.—I have a fine sow one and a half years old, that had pigs April 7, 1902. Though bred since, and supposed to be in pig, has had none. Feed has been two ears of corn, one quart of bran, one quart of shorts and half gallon of skimmilk twice daily. Have another sow, fine shape, but will not come in heat. Is six months old. Is running with several young male pigs; they never seem to bother her.
Olney, Ill. OTTO W. BURGENER.

First sow has been too well fed, and we suspect that to be the trouble with the other one. Turn both sows out and do not give them a bite of grain of any kind. Physic both of them with epsom salts in slop. Four ounces will suffice for a full grown sow. They may have a little thin bran slop and may be allowed to forage all they want to for additional food, and go to pasture when grass comes, unless that tends to fatten them. During this time give each ten grains of iodide of potash twice daily in any way found most convenient and keep it up until they are thin, show scurfy skin and perhaps discharge from eyes and nose. At this stage "iodism" has been caused and the iodide of potash should be discontinued. Then commence feeding them some hard food, such as ground oats, bran and dried blood meal with milk, and breed them to a young boar when they come in heat. If they do not tend to come in heat, place them in a pen next to boar and where he can "tease" through to them. If this does not bring them around feed them off.

Sprained Hock Joint.—I have a young driving mare which has sprained her left hind leg in the hock joint; she was lame for about a month, but she is not at all lame now; the joint is hot and is somewhat swollen; not very sore to handle now. I blistered it twice and then greased it; then I used warm water to bathe it with. She can walk off all right, but it appears she cannot lift it to step over anything. Could you tell me what to do for her? Is it good to give her a little exercise every day or so?
Harmony, Pa. N. H. SCOTT.

She sprained her hock joint originally and there may be thoropin present, or if there is a swelling back of the hock a curb is forming and cause of lameness. Whatever condition was present at first, the part has had too much "treatment," and the skin has become tender and sore. Stop all active treatment. Place her in a roomy box stall and feed lightly on soft food. Rub the swollen joint once daily with lanolin. Keep this up until skin is well and she does not flinch when skin is pressed or handled. At this stage take her out again and give her gentle exercise, and if she should go lame write us again, describing symptoms of lameness, but do not apply anything to part.

Tumors. — Have a 4-year-old colt with lumps on shoulder at place of heaviest pulling. The trouble seems to have been caused by working him last spring to disk harrow. He got very lame while pulling only. Have worked him very little since with collar. Pressure seems to hurt the lumps, especially the left. HERMAN SKINNER.
Temperanceville, O.

As a rule the best treatment in such cases is to have the tumors cleanly dissected out and afterwards treat as common wounds until healed, which they do rapidly. If you cannot have this done work the colt in a breast collar and sponge the enlargements often with a solution of half an ounce of tannic acid in a half gallon of water. Keep harness clean and dry. Write again if they should break or become sore. Pus sometimes gathers and must be liberated. If this happens open freely, evacuate pus, cleanse cavity with carbolized warm water then pack full of oakum saturated in a mixture of equal parts of turpentine and raw linseed oil. Renew dressing daily.

Blackleg.—I had a yearling calf die and don't know the cause. On examination found left hip all bloodshot and swollen down to the hock, as though it had been bruised.
Ivy, Cal. H. M. SWEENEY.

The calf died of blackleg, and you should lose no time in having all of your young cattle vaccinated with anti-blackleg vaccine. In the meantime physic each young animal with epsom salts and reduce grain feeding. It generally takes the animal that is doing best after a time of comparative scarcity of nourishment. Animals dying of this disease should be burned or buried deeply in quicklime. The disease may affect any leg or part of the body, and one can always know it is blackleg by the fact that the swelling crackles when handled, as if gas were under the skin of the part, which is indeed the case. In anthrax death is more sudden and tumor does not crackle when handled.

Contagious Abortion. — Can you tell me whether injections with some disinfectant will destroy germs so that cows which have aborted this year will be prevented from doing so next year, allowing that the disinfectant is used before the cows become pregnant. C. W. SAKES.
So. Dayton, N. Y.

The germ of contagious abortion is chiefly spread by the herd bull and by cows apparently recovered after having aborted several times. All cows that have aborted should be washed out (vagina) with two gallons of milk-warm 1-1000 solution of chloride of zinc, once daily for at least ten days ofter the accident, then two or three times a week for another month. Same solution should be used every day to wash vulva, tail and inside of thighs of each pregnant cow from conception until calf comes. Bull's sheath should be washed out with similar solution before and after each service. He should not run with cows. As a preventive give each cow, once daily, one-half drachm pure carbolic acid in water, sprayed upon hay or mixed in soft feed. Keep it up until disease disappears.

Rheumatism. — 1. Gelding eight years old showed signs of soreness in front, at first only in starting or turning; the longer it run the worse it got, but it would go and come; there would be times for a week or two that I could see nothing wrong, then would be worse again. I finally thought the trouble was in shoulders and I used liniment and blistered lightly several times. 2. The horse also has a discharge from the penis, and has had ever since I got him, over two years ago, probably about a tablespoonful at a time, but not very often. It is of a light color and thick. WALTER H. WARD.
Angola, Ind.

If you forgot to give us your name and address no answer would appear in this department. 1. The symptoms point to chronic rheumatism, and may prove incurable. See that stable is dry, well ventilated and sunny. Clip hair from shoulder and blister with cerate of cantharides. When particularly lame give a drachm of iodide of potash four times a day in drinking water. 2. Discharge constitutes urethritis, and may be associated with growth or with filthy condition of sheath. Wash sheath and penis with soap and soft, warm water, then rinse off clean with solution of one ounce of borax in a quart of soft water. Give one-half ounce of sanmetto twice daily until trouble ceases. See that all food is sweet, clean and free from mould. Exercise or work daily.

Hollow Horn Again. — I have a fine milch cow 6 years old, that has been in fine order for beef all her life; a model of vigor, thrift and beauty, till last August, while on a fine pasture, from some unknown cause she commenced falling off, and continued until about Christmas, she was really poor, although well fed and carefully attended to. All the symptoms of hollow horn were visible. I bored her horns and found them as hollow as a gas pipe. I treated her as above, and now she is improving and seems all right. W. J. POWERS.
Ringgold, Tenn.

Let us state once more that the horns of all adult cattle are hollow; that there is no such disease as "hollow horn," that recoveries from disease following boring of the horns and injection of medicine are merely incidental but not due to the treatment. The cavities of the horns of the cattle connect with those of the head, and hence in catarrh, which is a common disease of cattle, it is not uncommon for pus to find its way into the base of the horn. In such a case there would be great pain and much fever about the root of horn and an opening made in the horn to draw off the pus would give immediate relief. No pus is present when horn is cold. In most cases of so-called "hollow horn" we find either low malarial fever, catarrh of head or chronic indigestion.

Knuckling. — Mare eight years old is "pitched" in left hind foot only. Can anything be done for her? It has been noticeable about a year. 2. Brood sow 15 months old, in pig, eats well but is thin, constipated, hair looks bad and is falling off. There seems to be something wrong in her throat, as she has a peculiar grunt. I feed corn and artichokes, also the kitchen slops. All my other hogs look well. Have given salts and sulphur in wheat bran. E. S. MILLSOPS.
Statesville, N. C.

1. By "pitched," we presume you mean "knuckled over" on hind fetlock joint. This comes from standing in barn too much while well fed on grain. Give her a roomy box stall, cut down grain ration. Work her daily. In winter let her run out of doors when not working. Rub joint with soap liniment twice daily. It may improve, but should have had this treatment long ago. 2. Sow has some internal ailment, quite possibly tuberculosis. Little can be done for her other than generous feeding. Stop corn feeding and substitute sweet milk slop of oil meal, middlings, bran and dried blood meal. Cod liver oil sometimes acts well in such cases. Twice daily give her, in feed, a teaspoonful of a mixture of equal parts of dried sulphate of iron, powdered gentian root, saltpetre and wood charcoal.

Abscess.—I have a mare that had a colt last summer. When the colt was weaned the mare was thin of flesh, and the colt was in good condition. The mare has been worked, but not hard, just doing the ordinary farm work. She has been well fed, but we could not get her in good condition. About five or six weeks ago we noticed a lump on her breast, quite large. We lanced it and there was perhaps a quart of pus came from it. It filled up again but has been hard and not fit to lance again. S. D. DILL.
Newport, Nova Scotia.

When the abscess was opened and washed out it should have been packed with oakum saturated in a mixture of equal parts turpentine and oil, and this should have been renewed daily until cavity filled up. A tumor has now formed. Split it open and if there is pus in its centre it may not be too late to disperse it by above treatment. If it is merely a hard mass it will have to be dissected out and the wound treated with oakum and casabone until filled up. Better have her teeth put in order and feed her a quart of New Orleans molasses with one quart of water mixed together in cut hay and other feed night and morning. This will bring her into condition wonderfully.

Cough.—Please inform me what to do for my cow. I bought her late last fall and is with calf. She has a cough but looks good and eats well. I feed her about three pounds of bran, three pounds of corn meal and three pounds of linseed meal a day, half in the morning and half in the evening, corn stalks and some millet. Millet was cut when the seed was in the dough; there is no seed to hurt her. J. T. FENNELL.
Beverly, N. J.

Cow probably caught cold and has chronic laryngitis, the seat of which is the throat. Grasp the throat and see if squeezing slightly makes her cough; if so we are correct in thinking it located in throat. If possible substitute mixed clover and timothy hay for stalks and millet, and wet it well before feeding. Also wet the meals. Give one ounce of glyco-heroin three times daily and increase the dose if necessary. If throat is quite sore poultice it with hot flaxseed meal. See that barn is kept clean, well ventilated and free from dust.

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Did You Read Our Announcement
On page 192 in our issue of March 21, regarding the Veterinary Obstetrical Compendium, written by Wales E. Van Ame, Gen. Mngr., of the Live Stock Remedy Co., of Fort Wayne, Ind. If you failed to read the article, it would be greatly to your interest to look it up; as this is absolutely (as we stated in our paper of March 21) the best book for the Farmer and Breeder of Live Stock, that has come to our notice. Therefore our desire that our subscribers benefit, while this extensive and much needed book an be obtained at the present price of $1.00, while its true value is $3.50.

If any of our readers have neglected to order this valuable Treatise on Obstetrics in Live Stock, we would advise not to delay any longer, as Mr. Van Ame has notified us, that at the rate orders are coming in, the first edition, which comprises 50,000 copies will not last thirty days longer.

Thumps.—I have a sow with a litter of pigs three weeks old; two of them are sick, and would like to know what is the matter with them. The first one is lame, and one of its hind legs is swollen, and its front legs also. It can hobble around a little, but it stands with all four feet spread apart. It will stand a little while and then fall down. For one week it was one of the finest pigs in the litter. Its sides also jerk and it wheezes when it breathes. The other one is similar, only it is not swollen. I have fed the sow a gallon of brown middlings and bran mixed three times per day. I always scald it before feeding. They have a good pen with a floor of crushed stone and a covering of sand. I keep them a good nest of straw. H. K. HALL.
Morris X Roads, Pa.

You have a complication of diseases in your young pigs, but the conditions giving rise to them are identical. In the first place we do not believe a floor such as you describe, can be made perfectly suitable for young pigs, as it is sure to become damp and cold. Better floor it over with plank, allowing an air-space between gravel and floor, or, better still, filling space with wood ashes, which prevent smell and are otherwise healthy. In the second place "thumps," from which your pigs are suffering, and which is characterized by the jerky sort of breathing noted, is usually brought on by overfeeding the pregnant sow and allowing her too little exercise. Sow should be fed some succulent food, such as silage or roots for six weeks prior to farrowing, and should right along have ample out-door exercise. Spread litter and fodder over a large area and among it sprinkle grain, for which the sow will root. This will keep her active. Avoid corn feeding for pregnant sows. Feed them bran, middlings and dried blood meal, which will produce a quality of milk that will build up strong, robust pigs. Better turn sow and pigs out at once and feed as indicated in the foregoing. Actual treatment of thumps consists in giving a dose of castor oil to move the bowels and following with alternate ten to fifteen drop doses each of tinctures of opium and digitalis every four hours until symptoms abate. The condition of the joints may be due to rheumatism from damp quarters, to rickets from incomplete rations or to infection of the raw navel cord at birth. It is always wise to wet the navel cord at birth with a strong solution of corrosive sublimate in water. Half an ounce of the sublimate to a pint of boiling water makes a suitable application, and it should be used twice daily the first day, then once daily until the cords dry up and no raw spot remains. Use this on navels of all new-born animals. Rub the joints of your pigs once or twice daily with soap liniment.

Blind Teat.—We have a cow that is due to calve about March 1st, with second calf. She has had a teat that never gave milk, and seems as though it will have none this time. She is about four years old.
New Wells, Mo. G. E. SEIBERT.

It would be unwise to interfere with this teat, as treatment would be liable to set up inflammation of that quarter, if not entire udder. Where treatment is attempted we prefer to do it when cow is dry or nearly so.

Azoturia. — Five-year-old mare was in best of health. During the very cold weather I kept her in barn. After a few days in barn I noticed a swelling of hind leg. As the weather was fine I turned her out. She was full of life. After awhile she began to lag behind the other horses; she appeared paralyzed in hind quarters. Tried to get her to barn, but she dropped before I succeeded. Now in good, warm shed. Put her in sling, but she has no use of hind legs.
Elgin, Ill. WM. O'CONNOR.

Your veterinarian was doubtless correct in his diagnosis, and you should trust him to tell you cause and proper treatment of the disease, which is characterized by coffee-colored urine and invariably follows a spell of idleness while fed usual amount of oats and other food. Prevention lies in always reducing the feed of an idle horse and allowing some exercise daily in lot. Best change to bran mashes when idle, and if the animal is fat a dose of saltpetre may be put in one of the mashes to slightly act upon the kidneys. Keep the bowels open, reduce grain feed and allow exercise and you will never have a case of this disease. As to the present case it would be best to be left to the hands of the veterinarian who is in attendance on it.

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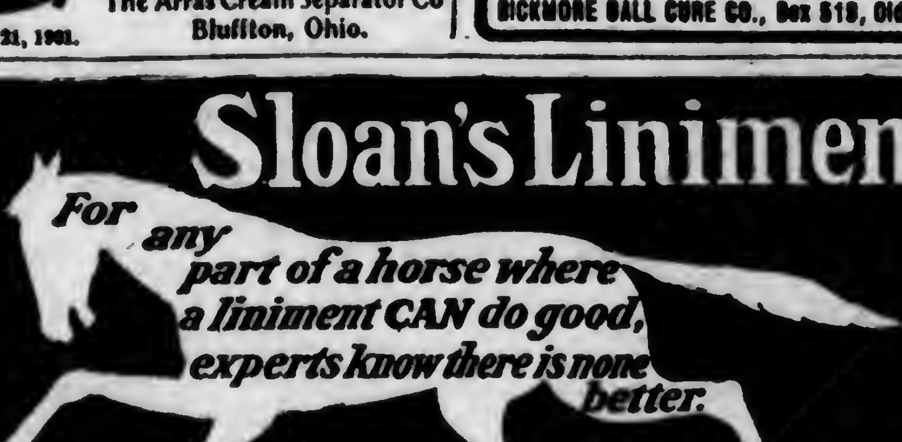
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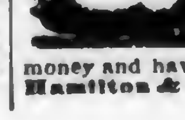
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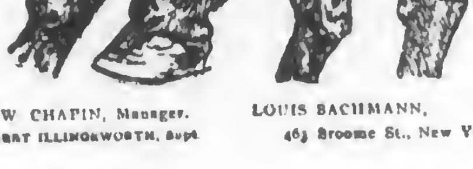
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Talks on Timely Topics.

The Limas.—Lima beans have always been one of my most satisfactory garden crops. For myself I prefer the pole varieties to the bush forms, and this mostly because the former are, with me, much more prolific than the latter. One of my favorites has been the King of the Garden, which makes a good sized pod, containing up to six beans, which are also very large. In quality I have never been able to discover much difference between any of the large varieties. I have usually been able to secure limas for the table not later than August, sometimes quite early in the month, and to ripen about the entire crop before frost. But I believe in planting seed rather early, or just as soon in May as the soil has become fairly warm. I am not much afraid of a light frost after that date; for the lima bean plant, when it has once sprouted, is half hardy, and seldom injured by a light frost. Plants may also be started under glass, or in the house, perhaps on inverted sods, or in pans, and then transplanted. Like corn, the lima bean plant suffers but little from the transplanting process, or from slight mutilation or disturbance of the roots. In Maule's catalogue I notice, this year, a new lima bean introduced under the name of "Panmure" Extra Early. This is said to be bred up from some older strain for earliness, by selecting annually the earliest (lowest) pods on the vines for stock seed, and claimed to be two weeks ahead in earliness to anything we now find on the list of lima varieties. Of course, I must have it, especially since by some neglect we failed to gather our own supply of lima seed as we have been in the habit of doing. I invariably have the lowest pods on the vines left for seed. It is a plan that every lima bean grower should adopt. The strain can be made markedly earlier by such selection.

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Current Comments.

Fleas in House.—A reader in Petterson, Ill., says he is going to move into a house badly infested with fleas, and would like to know what he can do to get rid of them before moving in. This seems to be an easily solved problem. When the house stands entirely empty, close all the windows and doors as tightly as possible, and fumigate every room thoroughly with brimstone. Put some live coal into an iron kettle, and upon this throw a generous dose of sulphur or brimstone, and at once leave the room, closing the door quickly behind you. Treat all rooms, halls, closets, etc., in this way, and the fleas will not be there when you come to move in. In place of the brimstone, you might put a pint or so of bisulphide of carbon in a vessel and leave it to evaporate in the closed room. I believe the sulphur treatment is more thoroughly effective, and it can be recommended for other purposes—I mean for the destruction of other enemies, both of insect and fungus nature—as well. I fumigate the greenhouse before starting up anew in the winter, or in the fall. All plants are taken out, the house tightly closed, and sulphur fumes (or rather sulphurous acid fumes) produced by burning sulphur as stated, thereby destroying flies, plant lice and other insects, and disease germs besides.

Red Spider in Greenhouse.—A reader asks what causes red spider in greenhouse, whether it is dampness, and what remedy there is for the insect. Moisture, far from causing the increase of red spiders, is their one deadly enemy. This insect flourishes best in a dry atmosphere, and is seldom troublesome in greenhouses where the air is kept saturated with moisture and where the plants are sprayed with water every day. Spraying with soapsuds, tobacco tea or kerosene emulsion, or dusting with fine tobacco powder, will also effectively clean out the pest.

Knapsack Sprayer.—A reader in Arkansas wants to hear from "one who knows" whether a knapsack sprayer will do good work on apple trees eight or nine years old, and whether it would be advisable for a person to buy one. The chief factor in the case is not the spraying machine or the possession of one, but the man who holds the nozzle. If you are the person to use the sprayer persistently and thoroughly, then I would advise you to buy a knapsack sprayer by all means. In fact, I can hardly see how I, or anybody situated as I am, with numerous small patches of vegetables, potatoes, strawberries, grapes, young trees, etc., could get along without a knapsack sprayer. Of course it wants a good one, made of good, heavy copper to be lasting, and provided with a good automatic agitator to keep the spray liquids properly stirred while being applied. For young orchard trees, *i. e.*, apple, pear and plum trees up to a dozen years of age, and kept properly pruned, a knapsack sprayer will answer very well, and if some of the trees have got to be somewhat tall, as pear trees sometimes will if not kept back by pruning, an extension rod may be used. I have both knapsack and barrel sprayers. When doing much spraying—several acres—with larger and smaller trees, I prefer the barrel sprayer with double hose and two sets of spray nozzles. For a comparatively small number of smaller trees, or where one, two or three sprayerfuls of liquid will be sufficient to do the business, it is more convenient, usually, to do job with knapsack sprayer.

Rats in the Cellar.—F. C. B., Springfield, Pa.—"Please tell me how to clear a cellar of rats. They seem to come through the walls at the bottom, undermining it. Have tried sprinkling lime in and around the rat holes, also plaster of Paris, poisoning and trapping them, without success." I have had a good deal of experience with rats, both around the barn and in the cellar. Usually it is easy enough to catch a colony of rats that has taken up its quarters in the cellar. But it is rather difficult to keep out the new supply from barn or other outbuildings. You want a good cat that is not afraid of tackling the biggest rat. Keep the cat in the barn, and give her a little milk, but little else, so as to keep her on the hunt for meat. Such a cat will keep the outbuildings reasonably free from rats and mice. The rats in the cellar can usually be caught after awhile by traps skillfully and persistently set. Deadfalls are often most effective. I catch many rats and mice with a simple Fig. 4 deadfall; but you can construct other styles. We have given such in the Short Cuts columns in earlier volumes of the P. F. A common steel spring trap, such as are used for trapping muskrats, can often be used to good advantage, but with older and experienced specimens of rats, long and skillful baiting may be required. Feed the rats regularly in a box, pan or keg for a while, using grains, bread crumbs, meat and cheese rinds, smoked fish waste, etc., for bait, until the rats have become accustomed to such feeding grounds. Then set your traps, and you will be sure to catch a few of the rats, sometimes the very oldest and wisest of the tribe, and the younger ones will readily go into any kind of trap. In short, keep at it with patience and persistence, and you will succeed at last.

FINER APPLE TREES
than we show this spring are impossible. That means variety and condition. From 8½ to 6 ft. high, smooth, strong, well rooted trees, guaranteed whole root grafting and disease free. Take advantage of our superb stock and
GET YOUR ORCHARD STARTED.
We have all season varieties. Summer—Red June, Red Astrachan, Summer Rambo, Yellow Transparent. Fall—Maiden's Blush, Gravenstein, Fall Rambo, Duchess. Winter—Jonathan, King, Rome Beauty, Scott's Winter, Wine Sap, Bellflower, over a hundred varieties in all. We guarantee secure packing and safe arrival anywhere in U. S. Let us fill your order from this matchless stock. Peach and Kieffer Pear Trees, Strawberry plants, Asparagus roots, etc. Catalogue and Special Apple Tree List Free.
HARRISON'S NURSERIES, Box 30, Berlin, Md.

Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Scale Insects and Fungi.

So much has been written concerning scale insects and fungi on trees that a few lines only are now contemplated to bespeak attention to the subject from those who should be interested. From one end of the country to the other trees are becoming full of scale and other insects, and this evil, together with that of fungi, require constant attention. It is not alone from nurseries that the evils are spread. Private orchards are infested in almost or quite every State, and from these trees birds carry the insects, on their feet, from one tree to another. Almost all nurseries are fairly clean of insects, some of them entirely so. The inspection laws of most States compel yearly examinations of the trees, and besides this, the nurseryman's interests call for clean stock. Everyone having fruit trees or bushes should be prepared to meet the foe. The best thing to do at the present time is to write to the advertisers of sprayers for their pamphlets concerning the subject. Very many that I have seen give formulas for making the various compounds, the time when spraying should be performed, the proper apparatus for the purpose and general information on the subject, of great value.

Peaches in the North.

The writer has referred to the fact that peach orchards are quite a success in Pennsylvania and adjacent States, and has urged that farmers should set out orchards of this fruit to a much greater extent than they do. Forty years ago orchards were not uncommon, as perhaps some readers of the P. F. who took part in the Civil War, who traversed Maryland and Pennsylvania, will remember. Though present at Gettysburg in the memorable July days of 1863, the writer did not see the famous Sherfy peach orchard, though very close to it, but he did see, and distinctly remembers, some very fine peach trees in that vicinity, the fruit of which, however, was still green on the trees. At the present time, at Bendersville, a few miles north of Gettysburg, there are some thrifty orchards to be seen, as the trains on Gettysburg and Harrisburg R. R. pass it. On the old battlefield of Antietam there were some thrifty orchards of peaches some five years ago when I last visited the ground; and the papers of today say there are many there now. I well remember a fine orchard there, chiefly of the Smock variety, which, with its heavily laden trees, was as thrifty a lot as I ever saw. What I think is, that our farmers are missing it not giving more room to peaches. Another thing to be considered in the planting of a peach orchard in the North is the fact that there is but little risk of the flowers being damaged by late frosts. The buds are held back longer and escape the risks of those trees further South. One-year-old trees are the best to plant, and spring is the best time to set them. It is just as well, or better, to trim away what shoots are on them and let them break afresh. Then, as they grow, give them a little summer pruning annually, to keep them low branched. Summer pruning makes trees bushy, the nipping off of the ends forcing out the side shoots.

NEVER TOO LATE
To Try A Good Thing.
I am fifty-two years old and for forty years of that time I have been a chronic catarrh sufferer, says Mr. James Geishing, of Allegheny City; with every change of weather my head and throat would be stuffed up with catarrhal mucus.
I could not breathe naturally through the nostrils for months together and much of the time I suffered from catarrh of the stomach. Finally my hearing began to fail and I realized something must be done.
I tried inhalers and sprays and salves which gave me temporary relief and my physician advised me to spray or douche with Peroxide of Hydrogen. But the catarrh would speedily return in a few days and I became thoroughly discouraged.
I had always been prejudiced against patent medicine, but as everything else had failed I felt justified in at least making a trial.
Our good old family physician, Dr. Ramsdell, laughed at me a little, but said if I was determined to try patent medicines, he would advise me to begin with Stuart's Catarrh Tablets because he knew what they contained and he had heard of several remarkable cures resulting from their use, and furthermore that they were perfectly safe containing no cocaine or opiates.
The next day I bought a fifty-cent box at a drug store, carried it in my pocket, and four or five times a day I would take a tablet; in less than a week I felt a marked improvement which continued, until at this time I am entirely free from any trace of catarrh.
My head is clear, my throat free from irritation, my hearing is as good as it ever was and I feel that I cannot say enough in praise of Stuart's Catarrh Tablets.
These tablets contain extract of Eucalyptus bark, blood root and other valuable antiseptics combined in pleasant tablet form, and it is safe to say that Stuart's Catarrh Tablets are far superior in convenience, safety and effectiveness to the antiquated treatment by inhalers, sprays and douches.
They are sold by druggists everywhere in the United States and Canada.

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At WHOLESALE PRICES, Delivered FREE For Houses, Barns, Roofs, all colors, and SAVE Dealers profits. In use 61 years. Officially Endorsed by the Grange. Low prices will surprise you. Write for Samples.
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BRIGHTON, large red, rich, sweet, best	$4.00	$30.00	$6.50	$55.00
CAMPBELL EARLY, early black	8.50	75.00	11.00	100.00
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DIAMOND, finest white; very early	4.00	30.00	6.00	50.00
IVES, black; fair quality, hardy, healthy	3.50	25.00	4.50	35.00
MOORE EARLY, large black; very early	4.00	30.00	5.50	45.00
NIAGARA, famous large white; good	4.00	30.00	6.50	55.00
WORDEN, richest, FINEST black, early	4.00	30.00	5.00	40.00
CURRANT, Fay, needs best of care	4.00	30.00	5.00	40.00
" LONDON MARKET, best	4.50	35.00	6.00	50.00
GOOSEBERRY. Houghton, Old Reliable	5.00	40.00	6.00	50.00
" Downing, large, good	5.00	40.00	6.00	50.00
" Josselyn (Red Jacket) best new sort	6.00	50.00	8.00	70.00

A general assortment of Fruit Trees, including 250,000 Japan Plum and 1,000,000 Peach; Raspb'y, Blackb'y, Mulberry, 3 best varieties; Chestnut, Weir's Maple; Root Grafts and an extra fine stock of Apple Seedlings. Send for Colored Plate and Descriptive Circular of STARK-STAR, best of all late grapes. We Pay Freight on $12 orders, box and pack free.
STARK BRO'S NURSERIES & ORCHARDS Co LOUISIANA, MO. Portland, N. Y. Dansville, N. Y. Atlantic, Iowa. Starkdale, Mo. Fayetteville, Ark.

Horticultural Queries.

Burning Strawberry Beds, etc. — I have a strawberry bed that got very thick with weeds and grass. Do you think there would be enough on to kill the plants if I burn it over this spring, and about what time should I burn it? Would like to know if the Peachblow Hibiscus is hardy enough to stay out over winter here, where the weather is below zero. Would also like to know if the Bismarck apple is what it is represented to be by the seedsmen. Is it hardy enough to stay out over winter here?

Bradley Junction, Pa. D. DOUGHERTY.

Burn over your strawberry bed as soon as the snow leaves you and the weeds are dry enough to catch fire. The roots of the grass will sprout again as the strawberries will, but the burning may kill the seeds of many weeds which otherwise would grow. I do not know the Peachblow Hibiscus, but presume it is a variety of the Marshmallow Hibiscus, and if so it will stand a zero temperature. No doubt the Bismarck apple is hardy enough for your locality. It may be a very good apple, but it is always best to test such things first before going heavily into them.

Tennessee Prolific Strawberry. — In your issue of Feb. 28, page 130, first column, C. S. Looney asks, "Where was the Tennessee Prolific strawberry first found and by whom was it introduced?" and you reply that you cannot give the information. Allow me to say that about 16 years ago the first plant of the Tennessee Prolific made its appearance in a flower bed just under my family-room window. It remained there for two years, when seeing something in it, I began to propagate it. After two years more I sent 100 plants to Franklin Davis & Co., at Richmond, Va. These plants were turned over to another nurseryman in Richmond, whose name I cannot recall at this moment. He gave the variety its name, and in the main, propagated it. At the time, I had under cultivation more than 20 leading varieties, but the characteristics of the Sharpless and Crescent were so well marked in the new variety that I never had any doubt as to its parentage. J. C. HODGES.

Morristown, Tenn.

Our correspondent has our thanks for his information, which no doubt will be valued by others as well as Mr. Looney. Another correspondent, J. T. Allen, also writes us to the same effect as Mr. Hodges, and he, too, we desire to thank.

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A Notable Seed Book.

We always look forward with pleasurable anticipations to the annual visits of the Maule Seed Catalogue. He calls it a catalogue, but it merits the more dignified title of book. The 1903 number is a book, 136 pages, perfect letter press, fine engravings, and eight colored plates, which we think are the handsomest that Mr. Maule has yet sent out, and he leads the seed profession in the matter of colored illustrations. These eight illustrations are in addition to the four colored plates comprising the cover pages. There are two leading characteristics which distinguish all the Maule catalogues, and in which the 1903 one is notably strong: Novelties, and the value of these novelties. If a new variety finds its way into this catalogue it must be good. It has had years of preparatory trials, until it has been thoroughly demonstrated that it is worthy of and will make a place in the Maule seed business. It would surprise the average farmer or gardener to know the infinite labor in the way of experimentation that is given to the development of the novelties that are represented in the 1903 catalogue, and which in some cases have necessitated thousands of miles of travel in this country and in Europe by Mr. Maule's lieutenants. We are not going to particularize the many features of this noteworthy book. They are too many for our space, and they can be had at first hands, free, by any reader of this paper, who will send name and address on a postal card to Wm. Henry Maule, Philadelphia.

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Poultry Queries.

A. F. HUNTER.

Hatching Shipped Eggs.—A. J. Umholtz, Tum, Ark., writes: "In one of the papers it is stated that eggs shipped on cars do not hatch well. Is this true? Will it pay to send away for special sittings of eggs to hatch fine chickens from? I have just bought a fine B. P. Rock cock to breed from and if I knew where to send to get one or two sittings of B. P. Rock eggs from stock that had a record for great laying and the eggs would hatch fairly well I would try them." It is all nonsense that eggs shipped on cars will not hatch well. I have shipped eggs 3,000 miles, away out to British Columbia, and had a report of ten chickens from a single sitting. I once shipped four sittings to a customer in Mexico; the express took them in a round-about way, so that they traveled 4,000 miles and were thirteen days on the road, and the customer reported twenty-six chicks. Don't hesitate to buy eggs because you fear they won't hatch. They may not, 'tis true, and the same can be said of a sitting of eggs from your own hens. I've had two hens sitting together in the same pen on eggs exactly alike(laid by the same hens), one hen hatched eleven chicks and the other not any. You will find some of the best-laying B. P. Rocks in the country advertised in the P. F., those of J. W. Parks, Box 530, Altoona, Pa. If you want to bring up the laying qualities of your stock, buy of him.

Scratching Shed Plan.—Meat Meal. —P. S. Grobe, Franklin Co., Mo., writes: "Will you please give me, through the Poultry Columns of the P. F., a plan for a scratching shed? I have a hen house 12x42 feet facing south, roof sloping north, with three windows in front. How many hens can I keep in it with a suitable scratching shed? Please tell me where I can get Romaine's 'B. B. & B.' or Bowker's 'Animal Meal' nearest to me." We would advise you to divide that house into two pens by a partition in the middle and have a scratching shed 12x15 on each end; then it will comfortably house a hundred, fifty in each combined pen and shed. You needn't build your shed roof as high as the house roof; it needn't be more than two feet high at the back. Write D. W. Romaine, 124 Warren Street, New York City and the Bowker Co., Boston, Mass., and ask them for name of their nearest selling agents; we do not know where the agents are. Mention P F.

Buff Cochins. — Mrs. O. R., Vienna, Ill., writes: "I am thinking of getting Buff Cochins. Do you think they are a profitable breed of chickens?" Yes. They are a profitable variety of fowls, but not so profitable as the White Wyandottes or Barred P. Rocks. The Cochins belong to the large (or Asiatic) varieties of fowls, and are rather sluggish layers; but they are splendid table fowls, about the best that are grown. If one could get fine-boned (small-framed) Cochins or Brahmas, that have been bred for egg production, they would be very profitable, but, unfortunately, more attention has been paid to the breeding for fine show points in them than to the utility qualities, hence we will be wiser to stick to the Wyandottes and P. Rocks. They are excellent table birds and very great layers.

Experiment Station Bulletins.—J. A. Boettinger, Hamilton, O., writes: "Can you give me the address of the Maine Experiment Station? I would like to get their poultry bulletins; also eggs, if any are to be had, as I would like some of their P. Rocks to cross on Cox's great laying stock." The Maine Experiment Station is at Orono, Maine, but it is doubtful if you can get their bulletins or annual reports, as you are not a citizen of that State. The citizens of Maine pay the taxes which support the Agricultural College and Experiment Station, both of which are for the interest and benefit of citizens of the State, and the officials have no right to send the publications to parties outside the State. The same would apply to their selling stock or eggs for hatching. If they have a surplus after meeting all calls from residents of the State there could be no reasonable objection to selling to an outsider, but so long as the residents of the State are buying all the hatching eggs the Station can spare they should not sell to an outsider.

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You can sell the bulk of your hay if you shred your fodder with a McCormick husker and shredder. Therefore buy the McCormick.

Death to Lice on hens and chickens. 84 page Book Free. D. J. LAMBERT, Box 312, Apponaug, R.I.

B B B MAKES HENS LAY. Send for sample and book, free. D. W. ROMAINE, 124 Warren St., New York.

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$4.00 per 13; Barred and White P. Rock eggs, $1.00 per 15; stock bred from prize-winning birds.
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$4.50 50 EGG SIZE $7.00 100 EGG SIZE $11.00 200 EGG SIZE WHY PAY MORE
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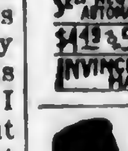

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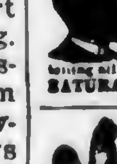

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Charcoal is a remedy that the more you take of it the better; it is not a drug at all, but simply absorbs the gases and impurities always present in the stomach and intestines and carries them out of the system.
Charcoal sweetens the breath after smoking, drinking or after eating onions and other odorous vegetables.
Charcoal effectually clears and improves the complexion, it whitens the teeth and further acts as a natural and eminently safe cathartic.
It absorbs the injurious gases which collect in the stomach and bowels; it disinfects the mouth and throat from the poison of catarrh.
All druggists sell charcoal in one form or another, but probably the best charcoal and the most for the money is in Stuart's Absorbent Lozenges; they are composed of the finest powdered Willow charcoal, and other harmless antiseptics in tablet form or rather in the form of large, pleasant tasting lozenges, the charcoal being mixed with honey.
The daily use of these lozenges will soon tell in a much improved condition of the general health, better complexion, sweeter breath and purer blood, and the beauty of it is, that no possible harm can result from their continued use, but on the contrary, great benefit.
A Buffalo physician in speaking of the benefits of charcoal, says: "I advise Stuart's Absorbent Lozenges to all patients suffering from gas in stomach and bowels, and to clear the complexion and purify the breath, mouth and throat; I also believe the liver is greatly benefited by the daily use of them; they cost but twenty-five cents a box at drug stores, and although in some sense a patent preparation, yet I believe I get more and better charcoal in Stuart's Absorbent Lozenges than in any of the ordinary charcoal tablets."

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Strong, Healthy, Nicely barred farm raised stock. Bred for eggs for 10 years. 135 hens averaged 198 eggs each in a year. Ckl. orders booked now. Eggs $2 per 13, $5 per 40, $10 per 100—Incubator eggs $6 per 100, $10 per 200. J. W. Parks, Box 530, Altoona, Pa., successor to H. F. Cox, Sabbath Rest. Agent for Cyphers Incubators, Brooders and Poultry Supplies.

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BARRED ROCKS exclusively. Young stock and eggs from prize winners. Eggs, $1.00 and $2.00 per 15. Write for circular.
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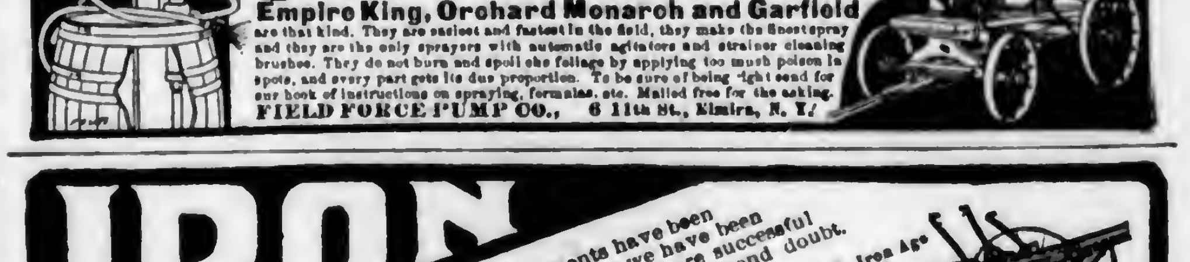

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are that kind. They are easiest and fastest in the field, they make the finest spray and they are the only sprayers with automatic agitators and strainer cleaning brushes. They do not burn and spoil the foliage by applying too much poison in spots, and every part gets its due proportion. To be sure of being right send for our book of instructions on spraying, formulas, etc. Mailed free for the asking.
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The Practical Farmer.

FOUNDED IN 1855
Published Weekly by The Farmer Co.
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PROF. W. F. MASSEY, Editor.

Philadelphia, March 28, 1903

GOVERNOR PENNYPACKER has appointed Mr. N. B. Critchfield Secretary of Agriculture of Pennsylvania in place of Prof. John Hamilton, who has resigned to take the position of Farmers' Institute Specialist in the Department at Washington. Mr. Critchfield is a farmer of long experience, and the appointment is a proper one in every way, and we have reason to believe that the work so ably done by Prof. Hamilton will be continued and even improved upon, if possible. Pennsylvania is to be congratulated that in losing Mr. Hamilton she still has a farmer in charge of her agricultural interests.

◆

The Tobacco Situation.

The American Tobacco Co., The Continental Tobacco Co and The American Snuff Co., are now all in one gigantic trust, and have made an arrangement with their late competitor, the Imperial Co. of England, not to interfere the one with the other. This trust is seeking not only to control the sales of tobacco from the growers in all parts of this country and in Cuba, but through a great system of retail stores to kill off all the retail cigar and tobacco stores of the country. The situation calls for the organization of the tobacco growers in every section of the country. If the growers in each section where the different kinds of tobacco are produced would form an organization with a legal charter and capital stock that would enable them to go into their markets and compete with the trust in the buying and manufacture of their tobacco, an effective competition could easily be established. A mere agreement among growers will avail nothing. They must fight the trust with its own weapons, and must raise capital enough to make them real competitors with the trust in each section of the country. If every grower of bright cigarette tobacco had stock in such an organization, and the business was in competent hands the market could be controlled and fair prices be obtained. Let us have capitalized companies of growers in every section and with every kind of tobacco.

◆

Growing for the Canning Houses.

Agriculture in the East in the neighborhood of the great cities, is rapidly leaving the great grain interests to the West, and is devoting more and more attention to orchard and garden crops. The production of fruits and vegetables for the canning houses is becoming the great industry in many sections. The leading vegetable crop for this purpose is the tomato, with peas close behind and sweet corn not far away. Heretofore in the canning sections the practice has been to contract with the growers at a fixed rate per ton for tomatoes, and for some years the low price prevailing made the canning of tomatoes a rather unprofitable business. But of late the price for canned goods has very greatly advanced, and last year the contracts with the growers were made at a higher figure, and many declined to contract, preferring to take the chances of the market. These growers, as a rule, got better prices than those under contract and the tendency this season seems to be to decline contracting at a fixed price. There is little danger in the tomato growing sections that the cannery men will not be able to get all they need, and this being the case, it would seem that it would be fairer for all concerned to leave the crop to the market price. If there is a surplus above the demand the canners will get the benefit of it, and if the demand continues good the growers will get what the market price may be, and in the future the planting will be done annually with a view to the market just as with other products of the farm. When prices rule high there is always a tendency, or rather a temptation, on the part of the grower to skip the contract, and some yield to the temptation. Therefore we do not believe that the contract system is good for either side, for there is equally a temptation in low prices for the canner to skimp the grower in measure, and object on the slightest grounds to the product delivered. If we were growing crops now for the canning houses we would take the risk of the market and make no contract.

◆

Flat Culture of Cotton.

The subject in the Pool today is a very important one for the cotton grower. Thoughtful farmers with all hoed crops are rapidly learning the value of a deep and thorough early preparation of the soil and then a mode of cultivation that will tend to conserve the moisture to enable the crop to tide over the effects of a drought. Corn growers in the great corn belt have learned this better than the cotton growers have. Cotton, like corn, makes a wide-spreading root system, extending clear across the rows of cultivation, and any system of cultivation which tends to loosen the earth up deeply not only dries the soil out rapidly, but also injures the wide-spreading roots by going too deep and cutting off the feeding ends of the roots. Cotton growers, as a rule, have used tools that work rather shallow, like the cotton sweep. But they still adhere very largely to the practice of hilling up the plants into ridges that dry out rapidly in the bright sun of the cotton belt. They have not yet learned the value of the dust mulch, and seem to think cultivation is only intended to kill the grass. Early in the spring, when the soil is prepared for the crop, there is an abundance of moisture in the soil. If the breaking has been done deeply and the preparation fine the moist soil should no longer be disturbed but should be allowed to settle and form the capillary tubes for the ascent of moisture from below. But if the soil is allowed to crust at the top the capillarity continues to the surface and the moisture passes off into the air. But if the surface is shallowly scratched all through the dry weather, and no crust is allowed to form this dust mulch checks the evaporation at the surface and preserves the moisture where the roots need it. Anyone who will take the trouble to examine a field of cotton that has been worked shallow and flat during the heat of summer, and compare it with one that has been deeply worked with double shovels and stocks can easily see that there is more moisture in the shallow-worked soil. The best tool to start the cultivation of cotton or other hoed plant is the weeder, going lengthwise and crosswise the rows, and saving a large part of the chopping out while breaking the crust about the young plants and destroying the grass and weeds just starting, thus saving a large part of the hoe work. On low lands there is, of course, some necessity for ridging as a means for promoting drainage, but on the uplands this is not needed. We hope that the experiences detailed in the Pool this week will show the value of flat, shallow culture, and that our readers in the cotton belt will experiment for themselves and learn how valuable the practice is.

This same flat culture and shallow working is just as valuable for the tobacco crop as for any other. We speak from experience, for we have grown tobacco without hilling and have grown it well and saved the great labor of hoe hilling, which is not only needless but harmful. Flat planting and flat cultivation also tend to check washing on hilly land, by making no furrows to collect water and form gullies in breaking over, but keep the water spread out over the land.

◆

Fertilizer Formulæ.

We are asked by a farmer to print in the P. F. formulæ for mixing a series of fertilizers with different percentages, using for the first series nitrate of soda and dried blood for nitrogen, 14 per cent. acid phosphate for the P. A., and muriate of potash for potash. He wants the following series:

A1. Ammonia, 1 per cent.; available phosphoric acid, 8 per cent.; potash, 4 per cent.
A2. Ammonia, 1 per cent.; available phosphoric acid, 8 per cent.; potash, 7 per cent.
A3. Ammonia, 4 per cent.; available phosphoric acid, 8 per cent.; potash, 7 per cent.
A4. Ammonia, 3 per cent.; available phosphoric acid, 12 per cent.; potash 8 per cent.

Using for ammonia one-half dried blood and one-half nitrate of soda.

Then he wants the following series with dried blood only as the source of nitrogen:

B1. Ammonia, 3 per cent.; available phosphoric acid, 12 per cent.; potash, 8 per cent.
B2. Ammonia, 4 per cent.; available phosphoric acid, 8 per cent.; potash, 8 per cent.
B3. Ammonia, 3 per cent.; available phosphoric acid, 8 per cent.; potash, 6 per cent.
B4. Ammonia, 4 per cent.: available phosphoric acid, 8 per cent.; potash, 7 per cent.
B5. Ammonia, 1 per cent.; available phosphoric acid, 10 per cent.; potash, 7 per cent.

The following will come as near as is possible to what is wanted. You will note that in order to make the low percentages it is necessary to add some inert matter like sand. And this is just what the manufacturers have to do to make these low grade goods to sell at an apparently low price, when the buyer pays for all that is of value in them and then freights a lot of stuff that he could have gotten at home for nothing. Hence, as we have heretofore insisted, it is always better to prepare and use or buy ready prepared a high grade fertilizer, as it will be noted that the high grades can be made from standard materials without adding filler.

A1. Nitrate of soda, 66 lbs.; acid phosphate, 1,140 lbs.; dried blood, 80 lbs.; muriate of potash, 160 lbs.; filler, 554 lbs.
A2. Dried blood, 80 lbs.; nitrate of soda, 66 lbs.; acid phosphate, 1,140 lbs.; muriate of potash, 280 lbs.; filler, 434 lbs.
A3. Acid phosphate, 1,140 lbs.; muriate of potash, 280 lbs.; nitrate of soda, 266 lbs.; dried blood, 300 lbs.; filler, 14 lbs.
A4. Acid phosphate, 1,356 lbs.; nitrate of soda, 160 lbs.; dried blood, 225 lbs.; muriate of potash, 250 lbs.; no filler needed.
B1. Acid phosphate, 1,350 lbs.; dried blood, 395 lbs.; muriate of potash, 255 lbs, and no filler needed to make the ton.
B2. Acid phosphate, 1,100 lbs.; dried blood, 593 lbs.; muriate of potash, 397 lbs.; no filler to make a ton.
B3. Dried blood, 500 lbs.; acid phosphate, 1,140 lbs.; muriate of potash, 240 lbs., and no filler needed to make the ton.
B4. Acid phosphate, 1,125 lbs.; muriate of potash, 275 lbs.; dried blood, 600. lbs., and no filler needed to make the ton.
B5. Acid phosphate, 1,430 lbs.; dried blood, 150 lbs.; muriate of potash, 240 lbs.; filler, 180 lbs.

By figuring out at the regular rates for the ammonia, phosphoric acid and potash in each formula you will be able to see what you would have to pay for them in a low grade fertilizer, besides freighting what is of no use to you. The party asking for these formulæ, however, we presume wants them to suit his different garden crops. The percentage in A4, B1, and B2 are not exactly as requested, but are in same ratio, and as near as the materials will allow them to be figured out.

Our Business Corner

THE FARMER CO.,
S. E. Cor. Market & 18th Sts., Philadelphia.
HENRY HARRIS, Business Manager.

Special Advertising Representative
S. E. Leith, New York.

ADVERTISING RATES.

Regular advertisements (agate measurement), **30 cents per line.**

Reading notices, set in nonpareil, **50 cents per line.**

Special location, 25 per cent. extra.

DISCOUNTS.—On bulk contracts:

250 lines, to be used within 1 year, 10 per cent.
500 lines, to be used within 1 year, 20 per cent.
1000 lines, to be used within 1 year, 30 per cent.
2500 lines, to be used within 1 year, 40 per cent.
5000 lines, to be used within 1 year, 50 per cent.

On continuous insertions:

Three months (13 times) 10 per cent.
Six months (26 times) 20 per cent.
Nine months (39 times) 30 per cent.
Twelve months (52 times) 40 per cent.

☞The above schedule of Discounts cannot be combined. No ad. of less than four lines inserted.

In order to change the address of a subscriber we must have the *former* as well as the present address.

All subscriptions are discontinued at the expiration of the time paid for. Renewals should be sent in two weeks before the date on the address label, if you wish to continue a subscriber.

When writing to renew your subscription you should be sure to give your name and address in full, otherwise we cannot find your name on our lists.

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A Chance for the Young People.

The young people of the P. F. family will be interested in our new P. F. Fountain Pen. A very little work in raising one of those 6-name clubs for the P. F. will bring them a pen absolutely free. It is the equal of any $2.00 of $2.50 fountain pen sold in the stores, and we guarantee it to give satisfaction. The P. F. in clubs of six only costs 50 cents per year, and at such a price it is no work at all to raise a club and get the pen. Every neighborhood has a half dozen farmers who do not take the P. F. A smart boy or girl can get their subscriptions and not half try. The pen will last you for years and be one of your most cherished possessions.

COMMERCIAL

Philadelphia, March 21, 1903.

WHEAT.—

There was little disposition to trade, but offerings were light and prices ruled steady. The world's visible supply, as compiled by Bradstreet's, showed a decrease of 2,800,000 bushels.

No. 2, red	77½ @	78
No. 2, Penna. and Del.	78½ @	79

CORN.—

The market declined ¼ @ ½c. under bearish speculation in the West, but closed steady, with a good foreign demand. Sales of 280,000 bushels No. 2 mixed, for export, on private terms, and 5 cars do. spot, in export elevator, at 49 cents.

No. 2	48¾ @	49
No. 3	44¾ @	45

OATS.—

Demand for car lots was light, but prices ruled steady under moderate offerings. Sales of 2 cars No. 2 white, clipped, track, at 43c.

No. 2, white clipped	43	

BUTTER.—

Receipts, 1,430 tubs, 460 boxes. Extra creamery was scarce and very firm at 30c., and exceptional sales of high-scoring goods were reported at a fractional premium. Receipts of this class of stock were not equal to the requirements of buyers, who in many cases were obliged to take the next best grade of fresh goods or the best qualities of June creamery. Offerings were largely of unattractive qualities, which were hard to move except at buyers' prices. Fancy nearby prints were exceedingly scarce and some dealers were compelled to pay a premium over quotations in order to get supplies. Offerings were mostly of medium and common grades, which continued dull and irregular.

Western creamery, extra	29½ @	30
Western creamery, firsts	27 @	29
Western creamery, seconds	22 @	24
Ladle packed, choice	16	
Ladle packed, ordinary	14 @	15
Prints, nearby, extra	31 @	32
Prints, nearby, firsts	28 @	30
Prints, nearby, seconds	25 @	27
Prints, Western, extra	30	
Prints, Western, good	27	

CHEESE.—

N. Y., f. c., small—		
Fall made, fancy	14 @	14¼
Good to prime	13¼ @	13¾
Fall made, fancy, large	14	
Good to prime	13¼ @	13¾
State, part skims, prime	10 @	12

LIVE POULTRY.—

Demand was fair and prices ruled steady under moderate supplies.

Fowls, hens, per lb.	13½ @	14
Winter chickens, per lb.	18 @	20
Ducks, per lb.	15 @	16
Geese, per lb.	12 @	15
Turkeys, per lb.	15 @	16

DRESSED POULTRY.—

Fresh killed fowls, choice	13½ @	14
Fresh killed fowls, average	12½ @	13
Frozen do do	12 @	12½
Nearby chickens, choice	17	
Nearby chickens, average	14 @	15
Roasters, Western, average	14 @	16
Turkeys, choice	17 @	18
Turkeys, average	15 @	16

EGGS.—

Nearby fresh, at mark	16½	
Western, choice, at mark	16½	
Southern do do	15½	
So. Western do do	16 @	16½

APPLES.—

Spitzenberg, fancy, per bbl.	3.00 @	3.50
Ben Davis, fancy, per bbl.	2.00 @	2.50
Baldwin, fancy, per bbl.	2.00 @	2.50
Greenings, fancy, per bbl.	1.50 @	2.50
Kings, fancy, per bbl.	2.50 @	3.00
Gano, fancy, per bbl.	2.50 @	3.00
Gillifiower, fancy, per bbl.	2.25 @	3.00
Northern Spy, fancy, bbl.	1.75 @	2.25
Mixed winter, good	1.50 @	2.00

GREEN FRUITS.—

Cranberries, Cape Cod, bbl.	12.00 @	14.00
Jersey, choice, per crate	3.00 @	4.00
Grape fruit, bright, per box	4.00 @	6.50
Grape fruit, russet, per box.	3.00 @	5.00
Oranges, Cal., navels, boxes	2.00 @	2.90
Strawberries, Fla., per quart	15 @	30

VEGETABLES.—

Beans, So., per ½-bbl. bas.	3.00 @	3.25
Beans, So., per crate	2.00 @	3.50
Cabbage, Danish, per ton	5.00 @	7.00
Cucumbers, Fla., per crate.	4.00 @	5.00
Eggplant, Fla., per box	1.50 @	3.00
Lettuce, So., per ½-bbl. bas.	1.25 @	3.00
Onions, yellow, per bu.	30 @	40
Onions, Ohio Globe, per bbl.	1.00 @	1.15
Onions, N. Y. Gl. Danv., bbl.	75 @	1.00
Peas, So., per ½-bbl. basket	3.00 @	3.50
Spinach, So., per bbl.	1.00 @	1.50
Tomatoes, Florida, carrier	1.50 @	3.00

POTATOES.—

State & West., per bu.	62 @	70
Sweet potatoes, per basket.	50 @	60

BEANS AND PEAS.—

The market for beans continued dull and weak under free offerings. Green peas were quiet and steady.

Marrows, H. P., per bu.	2.55 @	2.60
Scotch peas, per bu.	1.75 @	1.80
Green peas, per bu.	1.65 @	1.70

HAY AND STRAW.—

Receipts, 310 tons of hay and 7 cars of straw. The market for No. 1 hay ruled firm under light receipts and a good demand, but there were free offerings of the undergrades, which were dull and unsettled. Straw was in fair request and steady, with moderate offerings.

Timothy, No. Pa., choice, l'g.	19.50 @	20.00
do Western	19.50	
Timothy, mixed	14.00 @	16.50
Straw, straight rye	16.50 @	17.50
Wheat	10.50 @	12.00
Oat	9.50 @	11.00

FEED.—

Feed was in moderate supply and quiet at former rates.

Bran, bulk, winter, per ton.	21.50 @	22.00
Bran, sacked, spring	21.50 @	22.00

SPRAYING PREVENTS BLIGHT AND KILLS POTATO BUGS
OUR FREE CATALOGUE STATES "HOW AND WHEN" TO SPRAY — GIVING MANY FUNGICIDE AND INSECTICIDE FORMULAS — WRITE FOR IT.
SAVE YOUR POTATO, TOMATO, CABBAGE, ASPARAGUS, TOBACCO, GRAPE, COTTON AND OTHER CROPS –
ASPINWALL SPRAYERS PREVENT BLIGHT, RUST, SCAB, FUNGOUS DISEASES AND ROT.
THEY DESTROY BEETLES, WORMS, MOTHS, MEXICAN BOLL WEEVILS, ETC.
ASPINWALL MFG. CO., JACKSON, MICH.
In writing mention The Practical Farmer.

COTTON.—

Middling upland, cwt.	10.00	

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle about steady.

Extra steers	5⅝ @	5⅝
Good steers	4⅝ @	5¼
Medium steers	4¼ @	4½
Common steers	4 @	4⅛

CALVES.—

Veal calves steady.

Extra calves	8 @	8½
Fair to good	6½ @	7½
Poor and common	5 @	6
Grassers	3 @	4

HOGS.—

Hogs steady.

Fat hogs, Pa., Del. & Md.	7 @	9½
Fat hogs, Western	9¾ @	10¼

SHEEP.—

Sheep and lambs active.

Sheep, extra wethers	5¾ @	6½
Sheep, good	5 @	5½
Sheep, medium	4 @	4½
Sheep, common	3 @	3½
Lambs	4½ @	7¼

◆

New York, March 21, 1903.

WHEAT.—

No. 2, red	80¼ @	80⅝
No. 1, Northern Duluth	88¾ @	89⅛

CORN.—

Spot demand was fair. Export trade showed improvement, 60 loads being taken, mainly at outports.

No. 2	54½	
No. 2, white and yellow	53½ @	55½

OATS.—

Spot demand was better, with corn. Sales of 35,000 bushels were reported.

No. 2, white	45¼	
No. 2, mixed	44¼	

HAY.—

Prime, large bales, 100 lbs.	1.00	

BUTTER.—

Creamery, extra	29	
Creamery, firsts	27 @	28½
Creamery, seconds	23 @	26
State dairy, tubs, fancy	27	
Other grades	23 @	26
Western Imitation Creamery—		
Finest	21	
Fair to good	17 @	20
Lower grades	15 @	16
Packing stock, solid packed	12½ @	13½
Rolls, fresh, choice	15	

CHEESE.—

State, f. c., small—		
Fall made, colored, fancy	15	
White, fancy	14½	
Colored, choice	14¼ @	14½
White choice	14 @	14¼
Good to prime	13¼ @	13½
State, f. c., large—		
Fall made, fancy, large.	14¼ @	14½
White, fancy	14 @	14¼
Colored, choice	14	
White, choice	13¾ @	14
Good to prime	13¼ @	13½
State, light skims—		
Fall made, choice	12½ @	12¾
Winter made, choice	11¼ @	11½
State, part skims, prime	10½ @	10¾
Common	6 @	7
State, full skims	4½ @	5

LIVE POULTRY.—

Fowls, selected, heavy, lb.	13	
Roosters, young, per lb.	12	
Turkeys, per lb.	15	
Ducks, average, per pair	70 @	1.00
Geese, average, per pair	1.37 @	1.75
Live pigeons, per pair	35 @	40

DRESSED POULTRY.—

Turkeys, young hens & toms	16 @	17
Chickens, Phila. broilers, lb.	25 @	30
State & Penna. broilers, lb.	25	
Capons, average best, per lb.	16 @	19
Capons, Phila. fancy	20 @	22
Fowls, West., scalded, per lb.	13½	
Squabs, large, white, doz.	2.75 @	3.00
Dark, per doz.	1.25 @	1.50

EGGS.—

QUOTATIONS AT MARK.

State and Pennsylvania—		
Fresh gathered, firsts	18	
Western—		
Fresh gathered, firsts	17½	
Seconds	17	
Ky., fresh gathered, firsts	17	
Tennessee and other Southern—		
Fresh gathered, firsts	18	
Duck eggs, Baltimore, doz.	31	
Virginia and N. C., per doz.	29	
Far Southern, per doz.	22 @	25

GREEN FRUITS.—

Oranges, Fla., brights, boxes	4.00 @	6.50
Oranges, Fla., russets, boxes	4.00 @	5.50
Tangerines, Fla., straps	5.00 @	7.00
Tangerines, Cal., straps	3.00 @	6.00

VEGETABLES.—

Asparagus, Char.,prime, doz.	5.00 @	8.00
Culls, per doz.	3.00 @	3.50
Beets, N. O., per bbl.	2.00 @	3.00
Beets, Fla., per crate	1.50 @	2.25
Beets, small, per crate	80 @	1.00
Cabbage, red, per bbl.	80 @	1.00
Carrots, N. O., per 100	2.00 @	3.00
Cauliflower, Cal., per crate.	2.00 @	3.00
Celery, Fla., per case	1.00 @	2.00
Celery, Cal., per crate	4.75 @	5.00
Onions, yellow, per bbl.	1.25 @	1.75
Onions, white, per bbl.	5.00 @	7.00
Onions, red, per bbl.	1.25 @	1.75
Radishes, per 100	2.00 @	3.00
Squash, Hubbard, per bbl.	1.25 @	1.50
Turnips, Russia, per bbl.	75 @	85
do. white, per bl.	2.00 @	2.50
Tomatoes, Florida, carirer	2.50 @	3.25

POTATOES.—

Maine, per sack	1.75 @	2.25
Long Island, bulk, per bbl.	2.00 @	2.25
So., com. to prime, per bbl.	1.00 @	2.00

◆

WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.	
XX and above	30@32
X	28@29
Medium	30@32
Quarter blood	30@31
Common	26@28
UNWASHED (light and bright.)	
Fine	19@22
Medium	22@23
Quarter blood	22@23
Coarse	20@21
UNWASHED (dark colored.)	
Fine	16@17
Fine medium	17@19
Medium and quarter	19@20
Coarse	17@18
COMBING AND DELAINE FLEECES.	
Washed fine Delaine	32@33
Washed medium	30@32
Washed low	30@31
Washed coarse	27@28
Unwashed medium	23@24
Unwashed quarter blood	23@24
Braid	21@22

◆

$33.00 to the Pacific Coast

Via the Chicago & North-Western R'y from Chicago daily Feb. 15 to April 30. Low rates from Chicago to points in Colorado, Utah, Oregon, Washington and California. Pullman tourist sleeping cars to San Francisco, Los Angeles and Portland, daily, double berth only $6.00 Personally conducted excursions. Choice of routes. Address W. A. Cox, 601 Chestnut Street, Philadelphia, Pa.

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Our Spring Subscription Campaign.

For several years we have been offering cash prizes for the largest clubs sent us by our friends, within certain time limits, in addition to our regular cash commission. We find that in many instances the regular subscription price of the P. F. has been cut by some of our agents in the keen competition which has resulted from a desire to get the top prizes. This, in turn, has led to difficulty in securing the renewal of these cut subscriptions at full rates, and renewal subscriptions have been lost in this manner. For this, and other reasons, we have decided to discontinue all cash prizes and commissions and offer only our Blocks of Six, which have been so popular during the past few months. In clubs of six yearly subscriptions sent at one time, the subscription price is 50 cents, three dollars paying for the six subscriptions. The subscriptions may be new or old, and the subscription of the club raiser may be included in the six. In other words, a present subscriber can send his own yearly renewal and five other yearly subscriptions, new or renewals, and $3.00 pay for the same. Each friend who sends us one of these clubs of six, can have the choice of any one of the following 13 premiums:

Our $1.00 Seed, Plant or Bulb Due Bill.
Our Great McKinley Book.
Terry's "Our Farming."
Massey's New Book, "Crop Growing and Crop Feeding."
Greiner's New Book, "The Garden Book."
Greiner's, "How to Make the Garden Pay."
Prof. Voorhees, "The First Principles of Agriculture."

The P. F. Fountain Pen

Warren's Book, "200 Eggs a Year per Hen; How to Get Them."
The Horse and Cattle Doctor Book.
A Year's Subscription to The Practical Farmer.
A Practical Farmer Guaranteed Knife.
A Year's Subscription to the Thrice-a-Week World or Hoard's Dairyman.
"Dairying for Profit, or the Poor Man's Cow."

Outside of these clubs the subscription price of the P. F. will be $1.00 per year. Any person sending us 50 cents will receive the paper for 6 months only. Our single subscription price is $1.00 per annum, no more, no less.

Now friends, we believe this to be the fairest proposition all round. And we ask your hearty co-operation in making our present subscription campaign a success. We thank you for your successful efforts in the past, and especially for the help you have rendered us during the past year. We want to make the P. F. a still greater force in American agriculture, and we want you to help make it so. It's going to be better than ever during 1903, and if you will help us to put it into thousands of new homes, you will not only help to extend its usefulness, but at the same give us the sinews of war to give you a better P. F. than ever before.

THE FARMER CO., Market & 18th Streets, Philadelphia.

☞50 cents pays for the P. F. six months, $1.00 for one year, but $3.00 will pay for six yearly subscriptions, including your own. This is our 1903 campaign in a nutshell.☜

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

On the Farm.

MRS. D. H. NOYES.

All around is the garden of God,
Showing itself in tree and in sod.
In the beautiful flowers from the earth that grow,
In the ripening corn in the long field row,
In the lovely air we breathe each day,
In the sweet scent of the new mown hay,
In the voice of the birds as they sing o'erhead,
In the low of the kine as they homeward trend,
In the hum of the busy workers clear—
They each proclaim that God is here—
On the farm.

No. Lisbon, N. H.

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Editorial Chat.

"If you've had a kindness shown
Pass it on."

How natural it is when one has received help for that one to want to tell others. And so Ellen Kinney brings to the H. C. a case which is weighing upon her sympathies, and unselfishly asks that some of the reading and other little favors be sent to brighten this lonely life. It is a girl of twenty-one, living fifteen miles from a railroad, in Alabama. She, too, is badly crippled, her feet being utterly useless and drawn into the form of a letter C. Her hands are drawn up so that they are merely "fists," as she expresses it, but she writes a fairly good hand by just pushing the pen along. Neither upper nor lower limbs have grown any since she was seven, but she has a large body. Her parents are very poor and old, she says. She is lonely and would be glad of any little attention that would break up the monotony of her life. Her address is Willie Jane Sheppard, Wedomee, Ala.

* * * * * * * *

THE MAN WHO CLIPPED.

I saw him take the paper and
Turn to the Household Page,
Then scan the columns up and down,
As one who would all gage.

"Aha!" he muttered to himself,
"Here's 'How to Make Rice Fritters,'
And 'How to Utilize Cold Beef,'
And 'Home Made Stomach Bitters.'"

Then from his pocket forth he took
A pair of scissors, small,
And severed from the printed page
The helpful hints and all.

He clipped "The Way to Scramble Eggs,"
And "How to Make Peach Butter,"
As well as half a dozen more.
"That's all"—again his mutter.

"A thoughtful man," at once I mused,
"A man who cares for things;
Who loves the calm, contented song
The home teakettle sings."

"Do you," I asked, "preserve those notes
So that your wife may eye them?"
"Not much," he growled. "I cut them out
So she won't get to try them."

—*Baltimore American.*

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In the Kitchen.

Mrs. Lenna Barker, Clebourne, Texas, writes: I have derived so much good from the P. F. that I want to contribute a couple of good recipes, as follows:

POTATO DUMPLINGS.—Take as many large Irish potatoes as are required for your family; wash, pare them and drop in boiling water. Add salt. Have enough water to cover them well. Now while they are cooking, make your biscuit dough. Take off a piece and roll thin, cut in slices, or with a fancy cake cutter. Add enough flour, rubbed smooth in water or sweet milk, to thicken the potato water. If you have not enough soup pour more water in before you add the flour. Now put in your dumplings and a lump of butter, or, better still, meat drippings. Pepper and salt to taste and you have a very edible dish. If there should be too many potatoes to allow room for the dumplings, fork out the largest in a dish, cut two or three hard boiled eggs over them, one onion and a bit of parsley, lettuce or mustard as preferred, and there you have two real nice dishes out of the same pot.

FRIED TOMATOES.—Select large ones, just ripening, wash, rub smooth and cut crosswise. Lay in a pan of water (enough to cover), and sprinkle salt and pepper on them. Then take a plate of flour and roll each slice in the flour until perfectly covered. Have a frying pan with a cupful of lard or meat drippings boiling hot. Drop in one piece at a time. When all are in cover a few minutes, then turn them over and when brown on both sides take up. Pour the gravy over them and serve. We think this a delicious way to prepare tomatoes and an easy one. To protect the sleeves while cleaning milk vessels and the like, have a pair of long elbow gloves made out of a flour sack. Keep them hanging in a convenient place in the kitchen.

We think the P. F. the best farm paper we ever read.

Why do Our Boys Leave Home.

MALVINA J. THOMPSON.

As I look around me at the boys of the present day and see how many of them prefer any place rather than their homes, I wonder sometimes if a large part of the fault does not rest with the parents. I have heard a number of fathers say: "Well, my boy is large enough to be so much help to me now, but he does not like farm work; he wants to go to the city." Of course there are boys who would never make successful farmers, but who will achieve success in their chosen calling; but many more leave the farm that they may have greater freedom, and sometimes it results in sorrow for the boy and his parents also. Home must be made cheerful and bright if we want our boys and girls to think it the sweetest place on earth, as it should be to them. If the young people, and all of the older ones who could, would meet once a week at the different homes and have a kind of literary society, and take up different subjects for study and discussion, they would be surprised to find how much they would learn in one winter. In almost all homes there is an organ or piano, so that music could form a part of each evening's pleasure. I think something of this kind would perhaps counteract the tendency of boys and young men to spend their evenings at the stores, as many do. And if boys felt that they had the privilege of asking their companions in to play innocent games and that their mothers and fathers would enjoy it, too many more would do so. But in many homes the parents take so little interest in their children's amusements that it is little wonder they look for their pleasures elsewhere. We must take an interest in our children's joys and sorrows or they will go to others for the sympathy they should get at home. So let us keep a bright light and sunny smile for our boys and girls, for all too soon they will be men and women, and the memory of happy Christian homes will do more for them in the battle of life than any other remembrance, and will help them, in their turn, to make happy homes for the coming generation.

Harford Co., Md.

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Among the Flowers.

ROSIE L. M. TULL.

You who have seen an ice plant growing in a pot, can you imagine anything more magnificent when the sun is smiling down upon one of these natural ice-covered plants? They remind one of the beautiful crystals of a sleet-covered tree, and are so refreshing in mid-summer heat, as the brighter and hotter the sun shines the cooler the plant seems. Though very tender, it is easily grown. It thrives best in a pot. If you have not a pot just take a tin can, perforate the bottom with a nail, then fill it with one part sand and one part of leaf mold, or well rotted manure, and one part of garden soil, well mixed. Plant four or five seeds therein. Set the can in a pan of water till the dirt looks moist on top, then remove to a place where it can get the sunshine half of the day, and where the dew may collect on the dirt, till the plants come through the ground. Then they may have full benefit of the sunshine, for they most assuredly enjoy it. Of course they may need watering more than the once. Just set the can in water as before. Bottom watering is much better, as it does not leave the dirt crusted on top. It is better to plant the seed where the plant is wanted. Plant more seed than is really needed and thin the plants to the required number. They do not do well for long after transplanting, and often die.

They also thrive well if planted in a bed in a sunny location on the lawn or in the flower garden. The plants delight in plenty of sunshine and do not need much water unless the ground is very rich, or the bed quite high. It is best to not put as much sand in the soil composing the bed as in the pot, but more garden soil instead of the sand. The sand may be omitted altogether when planting out doors, except in case of a very heavy loam. The flower is insignificant in comparison with the stems and leaves. A bed of these is almost sure to attract a great deal of attention and admiration. And what can be prettier for the window of the sitting-room or kitchen than one of these plants in a pot with the sunbeams lightening up its jewel-studded foliage?

Walker, Mo.

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Our Book Table.

VELMA CALDWELL MELVILLE.

AUTOBIOGRAPHY OF A NEWSPAPER GIRL.—Not often do we care to immediately re-read a book, but we confess to the desire in this instance. Perhaps because we have the journalistic bent ourself; perhaps because Sun Prairie is the little Western town where Miss Banks spent her childhood, and from whence she went when the people "came in wagons" to see her start on her career; perhaps because the story is well told; perhaps because, running through all the fact and fiction, like a slender thread of gold, there is a true womanliness and beauty of character that irresistibly draws one. Whatever the charm, we are enthusiastic over the "Autobiography of a Newspaper Girl," by Miss Elizabeth Banks, and heartily recommend it to our readers. Miss Banks is only a "lone female," who has had a hand to hand fight for bread through all the years since she resolutely went out to seek fame and fortune, committed, as she humorously puts it, to the care of the angels. The "angels" seem mostly to have worn male attire, ink spots on their fingers and a pen over the ear; to have been ofttimes gruff, sometimes profane and always very human; but, in their way, frequently care-taking and kind to the gritty little woman journalist. In a way Miss Banks' career reads like fiction, but she generously omits the most of the shadow and treats the reader only to the sunshine. The chapter telling of her experience in Peru—private secretary to our Minister, but called the "girl diplomat"—is very entertaining; but we were more interested in her journalistic career in London. Think of a young girl, without "friends at court" or any influence, and only a small amount of her earnings in her pocket, going to a strange land and strange city and actually winning her way. She worked as a housemaid, a crossing sweeper, a berry picker and in various other capacities that she might have something original to write up.

Not less entertaining is her description of her life as a "yellow journalist" on her return to America. Then the little glimpses of her home life, if home life it may be called where there is only oneself, a negro servant and a dog, or, what is less homelike still, just oneself and the dog; but then such a dog as "Judge" is. We say "is," as he was very much alive at the time she finished her "Autobiography," and we fervently hope he is yet. Yes, we like "The Autobiography of a Newspaper Girl," and repeat that we heartily recommend it to our readers, especially to any young parties who may be thinking of giving up the "surety" of a comfortable work-a-day life for the supposed ease and wealth of a journalistic career. It proves the truth of a little article we submitted to our H. C. readers some time since, entitled "Not All Roses." It proves, to, that it takes courage, grit, cleverness, common sense and quite a number of other attributes to make a really successful journalist. Send your order for this book to The Farmer Co., Philadelphia.

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* * * * * * * *

It is always "the best one yet"—Maule's Seed Catalogue, you know—or so it seems to us, but it really is this time. We were late in getting ours, but the attractions are none the less. From cover to cover are the standards and the novelties, and here and there and an "eclipse collection" that eclipses to be sure. On page 129 we find one of these last, and in the collection we meet an old-time favorite—the pink fairy lily. The picture is perfect. We raised them for years but have unfortunately gotten out of the bulbs. The cyclamen and gloriana are two other favorites, but in fact they are all favorites, and if purchased alone come at 10, 12½, 15 and 20 cents each. It is a most wonderful offer; but no more wonderful than the "Champion Rose Offer" on the next page. Look at that! Can't you smell the fragrance? See that "Pearl Rivers" and "Enfant De Lyon." What grace in curve and beauty in tint!

Did you ever thank God for the roses?

Read the next page about this queen of flowers, and the next about the climbers. A rose on a bush is lovely, but one on a vine eclipses them all. We note there are two new Ramblers. Those creeping "Memorials" must be charming for cemeteries.

But what is the use trying to mention anything when there is so much, and it goes without saying anyway, that Maule's Catalogue is a perfect encyclopedia and floral gallery of itself. Think of one seedsman spending $37,000 in catalogues to give away. Send a card if you are in need of a guide to intelligent seed buying.

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Practical Poultry Points.

POLLY.

Having been for some years a practical poultry "crank," we feel ourself moved to tell how we succeed without either incubator or patent brooder—not denying, however, that they may be useful when a very large plant is operated. The same hen, if she be healthy, can be re-set immediately after the hatch, providing she has proper care all through, and this means that at a certain hour each day, preferably the morning, she be taken from her nest and put in a shed where food, water and a dust bath awaits her. As fast as the chicks hatch remove them to a basket of wool or cotton, and place in a warm room. When twenty-four hours old, warm a small box and sand the bottom a quarter inch in depth, having previously heated the sand and let it cool to just that comfortable temperature that the baby chick likes. If there are minute bits of plastering among it, so much the better. Put in the chicks and let them make their first meal of sand. In half an hour throw loose bread crumbs—not of new bread—and let them eat what they will. Soon remove to their sleeping basket again. In two or three hours put them in a box without sand, or on a newspaper and furnish water and yolk of hard boiled egg. (If one has regular drinking fountain it is all right to put it in the sand box.) Similar treatment should be kept up until they are old enough to keep busy all the time; then, if too cold to run out in a little run, provide a large box with sanded floor, drinking fountain and food—the latter comprising bread crumbs, egg yolk, millet seed, cracked wheat and oat meal. If diarrhoea appears, substitute tea—store tea—for the drinking water. When it comes to "gapes," pip and all the rest, we have never, by any of the many prescriptions, succeeded in saving many, and those we did save were stunted. Chicks kept off the ground until established will never have a gape worm anyway, and the careful avoidance of letting them get wet will prevent most other diseases.

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Correspondence.

Rosie L. M. Tull, Walker, Mo., writes: Mothers, you who have daughters who are grown, or almost grown, how many vacations have you taken? That is, just laid down the reins of housekeeping for at least a fortnight, without worrying about the work, and paid a visit to some friend, taken a journey, or went camping with a party? Don't you feel weary and tired? Then take a rest. The daughter will be willing, aye more than willing, she will be delighted to assume temporary control and play mistress during your absence. She is no doubt anxious you should take a rest. Just trust the reins in her hands for a while and you will be surprised and delighted on your return to see how well she has done, and how far she has spread her wings over the home nest. Of course there will be many little things which she has overlooked that perhaps you would have done, but don't go to scolding her about them; remember you have many years of experience which she has not. With all, you will find she has done well, and let her know you appreciate it. Of course call her attention to what she has not done, but don't scold. She will feel her labor was not in vain if you take some interest in the work, and she will have learned some useful lessons as well, during your absence. There are two important reasons why you should take a vacation. First, it will refresh and strengthen both mind and body. You will come home invigorated and be more companionable for your family. You will find the domestic circle happier than you thought it was; everything so bright you will wonder how you could ever have grumbled at your lot. A strong, healthy body and active mind are indispensable to the transaction of any business. Business men recognize this and take a vacation as a necessity. Second, "History repeats itself in every generation." If that be true, how long will your daughters be with you? Only a few years at most. You want your children to stay with you as long as possible, don't you? Of course you do. Then be wise; take your much needed and well earned rests while you may, for your's and your family's sake. Be a congenial companion for your children and they will be in no hurry to leave the home nest. Take your vacations while your daughters are with you so there will be someone you can depend upon. Your children want you to look fresh and rested and to be happy. Why disappoint them? "All work and no play makes Jack a dull boy."

[We would add the suggestion that some mothers better take an outing now before the busy season opens. Visit some relative or old-time friend, or just go off somewhere sight seeing.—ED.]

Louise Doyle Palmer, Rose Hill Farm, Richmond, Maine, writes: As this department is not a pay one, thought I would join you. Have been looking over the P. F's. and read Mrs. Adlard's letter. There are many of us "poor farmers' wives," who work early and late, yet we are rich if we only "count our marcies chillen," as Uncle Tom says. We have all out doors, and our neighbors can seldom pollute the air. We can all have flowers. Choose the hardy ones, and the annuals that thrive if neglected; just feed and water them. If we cannot afford money, flowers cheer the shut-ins. Just here, sisters, let me say sow some poppies (a lot of them), pansies, sweet peas and rudebeckia. A root will produce a peck in a year. I will send fifty roots in the spring to those who will pay the postage. Plant others, too, and then cut, cut, cut and keep on cutting. From a root of golden glow three years ago, I have given so many, and last year had nine large clumps and several small ones. They were seven feet tall and loaded with yellow balls. I could, and did, break great stalks and not miss them. They want quantities of dressing and mulch. Sick and elderly people like to be remembered, even by strangers. A few flowers often make the work easier for those who care for them. When we moved here, ten years ago, there was a hop vine, some catnip and tansy, burdocks, sourdocks and weeds—the last three all in capital letters. Now there are no weeds and nearly a hundred kinds of flowers. Cost a lot of money? Oh, no; perhaps five dollars and exchanges, and we get so much pleasure out of it. We have nine children. We keep from five to nine cows, so you see there is some work done. I am on the right side of fifty and in good health, but do you know I slight the ironing every chance I get? I ruffled, puckered and tucked for the first five, then began to ignore the machine attachments. I crocheted and did fancy work for rest (?). Now I confine my knitting to hose and mittens; go to bed at nine instead of twelve and am growing young. My children occupy the house. There are no parlors, just living rooms. American children have their rights and enjoy them. We enjoy every page of the P. F. As a rule, my husband cannot find time to read, but when he drops into a chair the first question is, "Where is the P. F.?"

Wm. T. Wright, Chambersburg, Indiana, writes: Mrs. Melville: You have been editing your department in a very delightful manner and touching on many interesting things. I am delighted with the P. F., "every inch" of it, and feel as though we could not make a living without it, but in "Editorial Chat," in Jan. 3rd number, we think the Editor enlarged on that prize article, "Child Culture" until it bloomed out into Armenianism—religiously sectarian. Remember that God is a sovereign, and His ways and judgments are very high above ours, and He came to seek and to save that which was lost; and if any know the way so well He did not come to save them. It might be encouraging to think of building up a character into the eternal Heaven, but the Bible says our works are as "filthy rags." Human may attain human perfection, divine perfection is found only in God Himself. Christ says, "I am the door, etc." and no one can climb up any other way; if he does he is a thief and a robber. You remember reading how in olden times they tried to build up to Heaven and their speech was confounded and it was a failure, so we cannot build up a character into Heaven, and can enter the gates of the "Beautiful City" only through Christ, according to Holy Writ. We think the Editor's closing statements in that article are misleading, and that one concerning the "Son of Man cannot drive you to Heaven if you mind to go elsewhere," is absurd, and, though we say it with all reverence, shows that it meant to hit somebody's doctrine or creed. It is absurd because it is not consistent with the teachings of the Bible or any doctrine extant in the land, but I know of a doctrine, which the uninformed say, teaches being driven to Heaven, and I happen to be one who believes that doctrine, and know that it does not teach compulsion, but that one is drawn to Heaven by Divine love, and is a willing subject of the Kingdom. "My people shall be a willing people," and His people are not "a mind to go elsewhere." The Editor need not worry about that point; God is able to take care of himself and his people, and those who "are minded to go elsewhere" are the devil's and will go there. I suppose, however, if God should undertake to drive anyone to Heaven He certainly would have the power to do it. Christ says, "No man can come to Me except the Father who sent Me draw him, and I will raise him up at the last day." I could write on and on indefinitely on this line, but I must close. Please pardon me for so much already written, for I could not refrain from writing you concerning this subject, but of course you do not intend to teach religion, and it is all right. Long live the P. F.!

[We have reviewed our editorial in issue of Jan. 3rd, and find nothing there to recant. We are not sure we understand the drift of all the brother's remarks, but if we do we think it ought to comfort him to know that that rank "Armenianism" was penned by a good Calvinist.—ED.]

A. J. Umholtz, Tum, Ark., writes: Dear friends, nothing is more pleasant than a happy home, and the leading features to make home happy are good health, pleasant surroundings and a heart filled with love to God and our fellow men. The question naturally arises "Where can we find a place that gives the best chance for these conditions?" The writer has lived in Pennsylvania, Ohio, Illinois, Kansas, Oklahoma and Arkansas, and candidly believes that Arkansas holds out the best features for happy homes; at least the northwestern part, in which he resides. Here, on the mountain tableland we have pure air, mild climate, extremes ranging from 10 degrees F. in winter, to 93 degrees F. in summer, soft water and beautiful scenery. The soil is fairly productive if well managed, producing the best of corn, wheat and other grains, and also nearly all kinds of vegetables. It is not surpassed in quality of the various kinds of fruit grown, such as apples, peaches, cherries, grapes, strawberries, raspberries and other fruits grown in the temperate zone. Other sections may produce larger crops, but in quality and beauty we let experts judge whether this section of Arkansas does not lead. The energetic farmer here can soon have plenty of fruit of some kind the year around, to give his family health and cheer. One man, coming from Michigan six years ago, bought a farm and set out Elberta peach trees. Last season, from 12 acres of a peach orchard, three, four and six-year-old trees, he sold nearly $1,300 worth of peaches, that outsold the California peaches in the same market. We have plenty of good timber and fine quality of coal. Land can be bought from $3 to $12 per acre, according to improvements, except the few farms that have been well improved by Northern farmers and fruit growers. The same fruit land that in California, Oregon and Washington would cost $100 to $200 per acre, can be bought here for from $5 to $12 per acre. People here are kind, hospitable, moral and religious. There is but little swearing and drunkenness compared with many places. Public schools are not as good generally, as in the Northern States. The two drawbacks here are poor roads and lack of enterprise to improve conditions, yet these drawbacks are yearly decreasing. Good place for energetic Northern farmers to find good homes.

Mrs. Wm. McConnel, Port Leyden, N. Y., writes: We have been subscribers to the P. F. for two years, and I enjoy the H. C. I think it is nice to write to the shut-ins. I have a baby boy three weeks old. I want to tell you how we are trying to pay for our church. We have had all kinds of socials and concerts, and pieced quilts, and still there is quite a debt to pay before we can afford a minister. We are going to have a fair in May, and any suggestion along this line I will thankfully receive.

[It seems to us there is nothing new to tell about church fairs, but it would be nice if our "gifted" sisters would contribute a bit of their handiwork for the fair. Surely a church society like this should be encouraged.—ED.]

Mrs. S. A. Sholes, Valparaiso, Ind., writes: We have been readers of the P. F. for over three years, and always enjoy reading the many useful and helpful hints. My husband and I live on a farm, and we think there is no farm paper as good as the P. F. I have noticed that the readers were requested to write, and I have often thought I would, but was afraid I could not write anything that would be worth reading. I made up my mind, however, to do the best I could. Here are a few little kitchen helps. First, have a place for everything and everything in its place. Have a drawer in your cupboard to put your dish towels in. Have a little box neatly covered and tacked up in some convenient place to keep butter cloths and soft washrags in. Try adding a little sugar to milk when boiling, to prevent it from sticking. Rub tough meat with a cut lemon. Sprinkle clothes with hot water. Here is a good recipe for ginger cookies: One-half cup sugar, one-half cup molasses, one cup shortening, one-half cup hot water, two teaspoonfuls soda, one egg, one teaspoonful each of ginger, cinnamon and cloves. Flour to roll. Keep the kitchen clean and bright. Have white curtains at the windows—cheesecloth ones are as good as any—and by all means have a rocking chair there. There is no better place than a clean, cozy kitchen for doing the mending in cold weather.

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Topic No. 567, April 11.—*What Varieties of Peaches Have You Found Most Profitable and How do You Manage Your Peach Orchard? Mention Best Two Varieties for Early, Mid-Season and Late.*

Topic No. 568, April 18.—*In Farming on Shares, What is Considered a Fair Rent in Your Section, and Should the Share Include the Poultry the Wife Raises?*

Topic No. 569, April 25.—*What is Your Experience with Hired White Labor in the South as Compared with That of the Negro?*

Topic No. 570, May 2.—*What is Your Experience in Stocking Hay Right from the Swath, and Have You Any Home-Made Derrick That Has Proved Economical of Time and Labor in the Stacking? Do You Use Fork, Horse Fork or Sling?*

Topic No. 571, May 9.—*Give us Your Experience with Alfalfa East of the Mississippi.*

Topic No. 572, May 16.—*Cherries for Market. Have You Found Them Profitable, and What are the Most Profitable Sorts?*

Topic No. 565.—Have You Tried Flat Culture with Cotton, and What is the Best Distance to Thin in the Rows and Between the Rows?

E. W. Brawley, Mooresville, N. C.—Yes, the first time I ever deviated from my father's method of cultivating cotton with the "double shovel," was when I attempted to grow it on a heavy, five-foot rye sod turned under late with a big plow. No, I could not ridge it with the ordinary plow, and it was planting time, so I pulverized the surface with disk and drag harrows, took an old corn planter with fertilizer attachment, marked off the rows and put in the fertilizer at one go, following immediately with the cotton planter. Continued rains kept me off the field about three weeks, and it also germinated all the seed I had put in. Being forced to take the first step towards flat culture, I decided to continue it and make an experiment for myself. I had to give up my coat, so I gave up my vest also. The ordinary 1-horse, 4-footed cultivator only was used until late in the summer, and results were watched for, not only by myself, but by my neighbors. The yield proved satisfactory, and the cost of production being reduced, I adopted the practice on all lands where rye, crimson clover or other vegetable matter is turned under just before planting. Observation has shown me that the cotton does not make such rapid growth at first, but it grows larger and stands drought better than that planted on the ridge. The weeder also gives better satisfaction on the level surface, not tearing out the tender plants so badly as it does when they are on a ridge. Character of land and variety of cotton planted control the distance to be given in the field. Very thin uplands may be planted in 30-inch rows and thinned to 6 inches, while good low lands should have 60 to 72-inch rows, thinned to 30 inches. The large bolled and long staple cottons require more field room than do the early and shorter staple varieties. Experience has proved that the Early King is better fitted for our soils and climate than the later varieties. Given this seed and land capable of producing an average of 500 pounds of lint per acre, I plant in rows 48 inches wide, and thin to one stalk every 10 inches, expecting a 3-foot stalk. This gives room to cultivate till the middle of August and lets sunlight in to mature and ripen bolls properly. For thinner, one-half-bale-per-acre land, rows 32 inches, and one stalk every 6 inches, will let in sunlight to keep bolls from rotting.

W. S. Sanders, Danielsville, Ga.—Yes. Have obtained the best results by thoroughly breaking the land, harrowing and rolling till a firm, fine seed bed is made. Put fertilizer in with a guano distributor and follow with cotton planter, and you have the cotton planted with two furrows to a row. Be sure to have on the guano distributor a small, short plow, so that the fertilizer will not be too deep, and will not leave too large a furrow for the cotton seed. We then use the weeder two or three times, being governed by the weather, till cotton is large enough to thin to a stand. The weeder leaves it almost perfectly clean of grass, and we run around with a little sweep, after which it is brought to a stand with hoes, which can be rapidly done, as the cotton is clean and does not fall down, being planted on a level. After this cultivate shallow and rapidly. On thin land it is best to have rows 40 to 42 inches wide and cotton 10 to 12 inches in the row. On land that will make a bale to the acre make the rows 4 feet wide and thin to 12 or 16 inches in the row.

W. H. Ranes, Ranes, Ark.—We had long felt that the practice of planting corn and cotton on ridges was not the best plan. So in the spring of 1902 I turned an old field with a 2-horse plow 6 to 10 inches deep. Land had been worked for thirty or more years without fertilizers or legumes, and was considered worn out. After plowing we used a pulverizer with three horses and thoroughly cut up and pulverized the land both ways till it was in fine shape for wheat or any other crop. I then planted the cotton with a drill, on the level, without ridge or furrow, using one bushel of seed to three acres. As soon as the cotton was up we cultivated it with a 5-shovel cultivator, running the right-hand shovel very close to the cotton. Next cultivation was with a "Tower" cultivator, and then again with the 5-tooth cultivator. Then with the "Tower" surface cultivator till the crop was laid by. Cotton planted in rows 3½ feet apart and 12 to 15 inches in the rows is apt to give the best results here. With this method of planting and cultivating, 50 cents per acre will pay for all the hoeing, and the land is left level and no ridges in the way in the future. My cotton stood the drought well and made over half a bale per acre without any fertilizer except surface cultivation and tillage. If this cotton had been planted in beds and given the usual cultivation very little of it would have reached 15 inches high, while with level cultivation many stalks were 5 to 6 feet high, and the limbs locked across the rows. We will continue to plant on the level and give clean surface culture, which will mean less labor and more cotton and more cash for the labor expended. If the land is too wet for level culture it should be tile drained.

L. McCarter, Lisbon, Tenn.—I have tried flat culture with cotton. I break the land well and harrow smooth. Make the rows usually 3 feet apart, and cultivate by running side harrow next to plants, and V-harrow between the rows as often as needed to keep down weeds and grass. I thin out to two or three stalks 12 to 15 inches apart. But much depends on the soil, so that each must learn for himself what is best on his soil, for no fixed rule of thinning will apply to different soils on the same farm.

L. S. Hubbard, Claremor, Ind. Ter.—I tried level culture on five acres of cotton. Plowed the land in April, disked it about the first of May, planted it level and worked it level with cultivator six times. Went through about the first of July and chopped out everything left. Made about 400 pounds per acre. My neighbor planted on ridges and made 1,600 pounds per acre. [This refers to seed cotton, of course.—ED.] Level culture will not do here in a wet season. I made 60 bushels of corn per acre on the same land with level culture. We need more P. F. readers here. [You are the very man to get them.—ED.]

J. G. Taft, Scipio, Ark.—I planted and worked some of my cotton flat last year, and it was the best, while that planted and cultivated in the old way was on better land. We had a very dry June, and our flat cultivated cotton did not seem to mind the drought, while the other showed the effects of the dry weather. I plowed the land in January and February, good and deep. When preparing to plant I cultivated the land well and laid it off, both ways, 3 feet by 28 inches and dropped 8 or 10 seeds in a check. Covered with 1-horse cultivator with shovels turned to throw the earth in, driving on the row and covering from both sides at once. As soon as large enough I went through with 2-horse cultivator both ways, running shallow, and thinned to three plants in a hill. The deep, early plowing and shallow cultivation holds the moisture, and the checking saves hoeing, and we get as many stalks to the acre as if drilled. The same labor can cultivate a third more cotton by flat and checked cultivation. The trouble in the South is that they do not work land enough to the man. If they would adopt the new methods of cultivation they could work more land and do it better.

[We think the trouble is that they attempt to go over too much land to prepare and cultivate it well.—ED.]

W. Shumaker, Shafter, Okla. — We all raise cotton on the level here. We went into cotton without learning the old Southern methods. But there is some land where ridging will help the cotton get a start. We have cold, flat prairie on which I think ridging should be practiced, but our timber lands, which are the best cotton lands, should be planted flat. One mistake in planting on the level is to plant with a heavy, 2-horse planter, which puts the cotton down in a furrow on soft land. All corn planters have a cotton attachment, which rot a great deal of cotton every year. I have never found a planter that will run light enough. So I take a corn marker and mark my land 3 and 3½ feet apart, and then have my boys scatter the seed along the mark, and I cover with a weeder. It is a little more trouble, but all my neighbors had to replant last spring, while I had a very good stand. Eighteen to twenty inches is about the right distance in the rows.

W. D. Neves, Tigerville, S. C.—We have tried flat culture of cotton for a number of years, and I think that after anyone tries the method he will always stick to it. Of course thorough preparation of the soil is essential. We lay off the rows 3 feet apart, which is the best distance, except on very rich land, where 6 inches more width is better. After putting in the fertilizer we bed on it with a half-shovel plow, throwing two furrows on top the row, but are careful not to make a high ridge. If this is done carefully there will be no need for breaking out the middles before planting; just run the planter on the flat ridge. If a crust forms before the cotton is up, run the weeder crosswise the rows, and it helps wonderfully to get the cotton up. At same time it kills the grass just starting. If the weeder is not needed we work first with a harrow. We always thin to a stand at the first working, though some just chop through it. But putting to a permanent stand at once is better. This is about the 10th to 30th of May, when all danger of late frost is past. Distance depends on the kind of land and variety of cotton. We usually thin to one stalk in the hill and the hills from 10 to 15 inches apart. If land is very rich the hills should be 18 to 24 inches apart, but a 12-inch hill in a 3-foot row is our rule. We never work cotton deep after it begins to grow. If, however, we want to give it a deep working we do it just after thinning, and then work fast and shallow so as not to disturb the network of small roots. Most of our plowing is done with a short plow on front of plow foot and a sweep behind, beginning with an 8-inch and laying by with a 26-inch sweep. If plowing and thinning are done well, there will not be much hoeing to do.

J. A. Richards, Louisville, Ala.—On our sandy lands flat culture is not best in a wet season, as cotton will die worse than where it is ridged. Slight ridging is better one year with another, as the ground will warm up quicker and will cause the young plants to grow off faster, and it is easily worked with sweeps and scrapers. On thin land I want my rows 3 feet apart and one stalk of cotton every hoe chop, or about one foot in the row.

T. C. Mullins, Reepsville, N. C.—We have been trying the level cultivation of cotton for several years, and find it much better than ridge culture, especially in a dry season, as it stands dry weather better than on the ridges. I do not know that there is any advantage in a wet season, except that the land does not wash so badly. The best distance here is three feet between the rows and thin to 12 to 18 inches in the row for the big boll varieties. For the small boll sorts and early varieties thin to 8 to 12 inches in rows 2½ feet apart.

J. J. Ponton, Yoakum, Tex.—Where land is well drained and not very foul, flat culture of cotton is better than ridging, especially in a semi-arid section. The moisture is better retained. Would not advise flat culture if there is any doubt about the drainage. Standing water, above or below, will kill cotton in a very short time. The fertility of the soil will govern the width of the rows and the distance in the row. Bottom land should have rows four to five feet apart and thin to one foot in the row. Upland three to three and a half feet and six to eight inches in the row.

J. T. Price, Stunt, Ark.—We mark our rows three and a half feet apart, throw up a bed and then harrow till nearly flat. Plant May 1st. By planting on a flat bed we can do most of the work with the plow. I think this is a great improvement on the old method of planting on a high bed and doing so much work with the hoe.

W. Nockolds, Oakley, Tex.—Flat culture of cotton is the rule here. I had some cotton the past season planted 4 feet apart each way and given flat culture, and the way it grew and made cotton was a wonder. It was a small-bolled, prolific variety, and though we had a bad drought it never suffered at all, but made right along as though it was raining daily. I cultivated it flat with a Planet Jr. wheel hoe and a heel sweep, with bull tongue set flat, running through it often, not more than an inch and a half or two inches deep. It was loaded down with bolls, and made cotton right till frost. The usual distance here is three and a half to four feet between the rows and from eighteen inches to two and a half feet in the rows. Several years ago I made half a bale per acre on thin, sandy land, with no fertilizer, planted three feet three inches between the rows and two feet in the row. I worked it eight times with a 5-tooth cultivator with three to twelve-inch sweeps on the hind standards and two cultivator teeth in front running once in a row.

The following paper comes without signature or postoffice. But for the fact that it is a thoughtful paper we would throw it aside.

Flat culture of cotton has been a success with me as has flat culture of corn. It is not easily done without proper tools. Until I bought some "Pennington" side harrows and a Hallock weeder I could never finish my crop level. But with such tools it is easy. This "Pennington" harrow is a cultivator with four narrow plows, and it is quite capable of loosening the ground deeply at the start, and later quite shallow. I use the Hallock weeder twice before thinning and never afterwards, although it could be used after thinning on land that is quite clean. I run the weeder either crosswise or bias of the rows, never lengthwise, the first time just as the plants appear and next time just before thinning, and that should be when the third leaf is half grown. As to the proper distance I have always made my best crops when my stand was thinnest. I have several years made a bale to the acre, on land that is not at all rich. The rows were four feet apart, with plants 14 to 24 inches apart in the rows and two to three stalks in the hill. I might have made more with one stalk, but thought my land too poor to try one stalk in the hill. I am not much at cotton farming, but have learned this one thing about cotton raising. There are thousands and thousands of dollars lost every year by the farmers of North Carolina leaving too many plants in the hill.

SUMMARY.

It is evident, from the way in which this topic has been discussed, that the leaven of good farming is working in the cotton country. There is one point that we think has hardly been brought out plain enough. This is the liability of all of our upland country in the South to wash badly. The old method of ridging cotton and corn in the rows laid off around the contour of the hills covers the field with a great series of narrow valleys to catch the torrential rains that are common in the South. Every one of these valleys catches the water till it gains head enough to break over, and then down the hillside starts a gully. If the land is planted and worked flat there is no place for the water to gain a head. It is kept spread out, and we had rather undertake to work a field on those hills without any terrace banks, if worked flat, than to have the best-contrived terraces with ridge cultivation. In fact, we believe that the ridging has more to do with the washing of the Southern hills than anything else. If the weeder is faithfully used crosswise and lengthwise the rows while the cotton is young there will be little left for the hoes to do. There are no better tools for the first workings than the weeder and the slant-tooth smoothing harrow to quickly go over the land and loosen all the crust so that there will be nothing to make the cotton "sore shinned." Then as the cotton advances, thin it early and work rapidly and shallowly with the small-tooth cultivator. One of the greatest advantages of the flat culture is that it necessitates a good previous plowing and preparation of the soil. The old practice of going into an unbroken field and running out furrows, putting a little fertilizer in them and then turning a list over and plowing out the middles, makes a very poor preparation of the land. Early, deep plowing, and thorough harrowing lengthwise and crosswise the rows till, as one of our friends said, it is fine enough for drilling wheat or any other crop, will make more cotton than fertilizers on the old plan. With improved methods of cultivating the cotton will naturally come improved methods of farm rotation, and the time will soon come when the man who merely plants cotton year after year on the same land will be looked upon as hopelessly behind the times. Our friends talk of the various distances for poor land and rich land. The thing to do is to go to work and make the whole farm rich, and not have any poor land. If the land is poor, are you not largely responsible for its being poor? Let us go to work and redeem the land by good farming.

There was a cry in the streets. People rushed from their doors and strained their eyes on the struggling balloonist fighting for life. Even the poor, panting sufferer in the sick room was forgotten while the family gazed breathless at this strange tragedy of the air. Then they went back to the sick room to tell of the terrible struggle for life they had just witnessed. It did not occur to them that under their very eyes a more terrible, more pathetic struggle was going on daily.

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☞**Special Notice.** The farms advertised in this column must be the farm of the advertiser, and not placed in his hands by another person for sale or exchange. No advertisements from Real Estate Agents will be accepted for this column; they must go in our regular advertising columns at regular rates.

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TILE DRAINED LAND is the earliest, easiest worked and most productive land. By using tile you get rid of the surplus water and admit the air to the soil—both necessary to best results in agriculture. My AGRICULTURAL DRAIN TILE meets every requirement. Make also Sewer Pipe, Red and Fire Brick, Chimney Tops, Encaustic Side Walk Tile, etc. Write for what you want and prices. JOHN H. JACKSON, 48 Third Ave. Albany, N.Y.
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We sell direct from our factory, guarantee safe delivery and save you middlemen's profits. Our $44.95 Custom-made Special is equal to any $75.00 Top Buggy. Large FREE catalogue fully describes all our vehicles and harness. Warranted two years.
Write today for Money Saving Catalogue. U. S. BUGGY & CART CO., B 701, CINCINNATI, OHIO.

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Don't pay retail price for carriages or harness. Write for our catalogue and learn about our system of selling direct from factory to customer. Two profits are saved to you. Satisfaction is guaranteed, or you can return the purchase and we will pay freight charges both ways. We have the largest assortment of buggies, surreys, phaetons, carriages, and other high grade vehicles, as well as harness and horse accessories, in America. Write for the catalogue to-day.
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Factory and General Office, COLUMBUS, O. Western Office and Distributing House, ST. LOUIS, MO. } Write to nearest office.

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SENT ON TRIAL
SIZES 3 TO 13 1-2 FEET.
Agents Wanted
To be returned at my expense if not satisfactory. The best pulverizer—cheapest Riding Harrow on earth. We also make walking Acmes. The Acme crushes, cuts, pulverizes, turns and levels all soils for all purposes. Made entirely of cast steel and wrought iron—indestructible.
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Your LAST CHANCE to buy our stocks at
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Is the week ending APRIL 1st.
The phenominal sale of this allotment forces us to close our present offer promptly on that date. After that date there is no argument you can offer that will enable you to secure this valuable stock at the old price.
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Write today for prospectus and get the facts about this property that we own.
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Bank Reference: Western State Bank, Chicago.
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Has 30 oz. full rubber top, split hickory wheels, best steel axles & springs, finely finished, neat, strong and substantial, the best value ever offered at the price. Sold on 30 days' free trial and if it don't prove itself a bargain and if you don't consider you have saved $15.00 send it back.
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It not only wins trade for us, but praise from every user. Has genuine leather quarter top, spring cushion and back, boot, carpet, double braced shafts, in fact everything complete and up-to-date. Is roomy, comfortable, easy riding and light running. Everyone shipped on trial, no questions asked if not satisfactory; just send it back if it isn't $20.00 cheaper than equal quality at retail.
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the buggy that won such favor in every state in the union last year. Impossible to give description here. Has 100 points of merit. Nothing like it every offered vehicle buyers before. We only ask a comparison with a $65.00 buggy at retail and if, in your judgment, it isn't better don't keep it. Costs you nothing for the trial.
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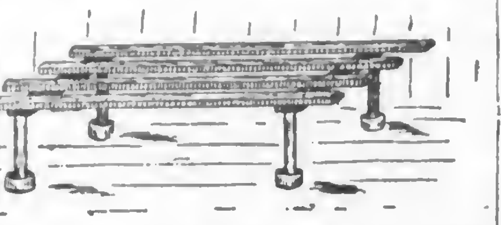
SHORT CUTS.

BY PRACTICAL FARMER SUBS.

All other trades have resorted to "Short Cuts." To be successful farmers must resort to them, too. In this column we will publish all actual labor saving short cuts made by the farmer on the farm and the housewife in the home. Write and tell us of any labor saving tool you have made, of any method of management or manner of using implements to save time, labor and money, or increase their efficiency. Even the smallest things may be useful and valuable. Hints and helps in the household are always welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Write on postal cards and make articles short. All errors will be corrected by the editor. Address all communications under this head to T. Greiner, La Salle, N. Y.

Vermin-Proof Poultry Perches.—At one time when I had been unable to take proper care of my hens I found that my hen house, and hens also, were literally alive with lice, and this is how I got rid of them: I had my roosts made as illustrated, and only 18 inches above the floor. Each leg is placed in a can which contains a little kerosene. First I cleaned the house as clean as I could get it; next I scattered dry dirt all over the floor and then I painted the roosts thoroughly with kerosene. I knew the lice did not stay on the hens during the day; that is, not a great many for I found them in big bunches on the under side of the roosts, so I thought if I could fix it that the lice could not get to the hens at night there would be a chance to get rid of them. I provided a good dusting place for the hens, where they got rid of what lice they had on them. I now keep the hen house clean and I have no more trouble with lice.



Hull City, Tenn. Mrs. Mary Plath.

Harness Cupboard. — Wishing to keep our harness clean, and secure from mice and pilferers, we built in our buggy shed a cupboard, making it 6 feet high, 4 feet wide and 1¾ feet deep. We were careful in building so as to make it proof against rodents, as well as thieves. A dead lock was fitted to the door, locking from the outside with a key. As a place of safety for the harness and other articles which may be stored therein, we think it is a valuable adjunct to the building. D. W. Stahl.

N. Jackson, O.

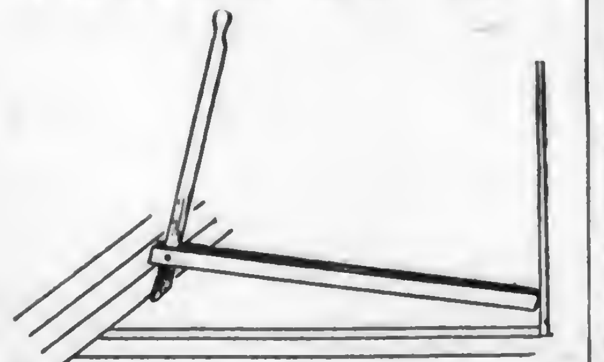
Household Convenience. — A handy article for a bedroom, or any other room, is a piece of a broom handle covered with ribbon, velvet, silk, etc., either one kind or "crazy" pattern. Put screw hooks from top to bottom about three inches apart. Hang keys, glove buttoner and scissors on the hooks, and so save them from loading the shelves. Tying bows of ribbon at both top and bottom of handle will improve the looks.

Gardiner, Me., R 2. Hattie Peacock.

To Protect Felt Boot Tops. — Those who wear felt boots know that in working in thorny bushes, etc., the felt is often damaged and always badly worn. To protect them, cut the tops from some old rubber boots and pull on over them. If it is desired to exclude snow from the overshoes this may be done by riveting straps to these rubber leggings and drawing them down over tops of overshoes, passing strap down under foot and buckle to strap on outside.

Cochranton, O. M. L. Hobart.

To Lay Flooring Tight.—Take three pieces of 1x4, two pieces as long as your room is wide and one piece 4 feet long. Bore hole (1-inch) 6 inches from lower end of short piece. Also same size hole in both long boards 3 inches from end. Place lever between long boards and put pin in. This device will save any farmer 50 per cent. in time, and insure a good job. When one board is laid saw off the long boards a little, and so on till floor is done. Can use it overhead for putting on ceiling also.



Gordon, Neb. E. H. Wells.

Economy with Canvas Gloves. — As some light gloves are needed here in this Northern climate, I find that these canvas gloves, at 5 cents a pair, are the most economical cheap glove on the market, and to facilitate the wear of same, when the threads begin to wear through, just have your wife employ the use of the darning needle and common white store twine, and thus increase the wear of same by one-half.

Alma, Mich. O. R. Robertson.

Care of Paint and Varnish Brushes.—Have a tin can, similar to that of a baking powder can, a little deeper than the entire length of brush. Pass a wire through the can near the top; cut a notch in the handle of brush and hang it on the wire, after which pour raw linseed oil in can so that the brush will hang in oil up to where it is wrapped. Place lid on can and leave for future use. Brush should not touch bottom of can. See that the entire brush is enclosed. One or more paint brushes can be kept in one can, but the varnish brush must be kept in separate can. This is not a new experiment. I have kept a varnish brush in this way for over fifteen years and always found it in good condition, only it was worn from using. When varnish brush is taken out of can to use, leave oil that may be in brush in can by pressing the brush over top edge of can. Benj. Cassel.

West Milton, O.

Old Nails. — It may not be generally known that nails may be easily withdrawn from boards or timber if they are first started by tapping them on the head with a hammer. Boxes are more easily taken apart and boards removed from buildings, fences, etc., if the nails are first driven in enough further to start them. M. N. Edgerton.

Petoskey, Mich.

A Foot Salve.—The best salve for tired and aching feet may be made at home, of mutton tallow and camphor. Cut the clear fat, which may be the trimmings from chops or the kidneys, into small pieces and add to them a piece of raw potato, peeling and all. Cover with water and fry out in the oven. When nothing is left of the fat but the cracklings, strain, add a few drops of camphor and pour into egg shells or small jars. Mrs. Harrison Monroe.

Bushville, N. Y.

Pencils and Note Books. — Plenty of pencils and note books, and one pair of these in the pocket, is the surest short cut to success that can be used by anyone. They show the standing of the user, the place the money comes from, and point the way, as it were. No successful business man would think of doing without them, yet how many farmers never think of keeping books! But it is the foundation of success. The time to begin is right now. John Holt.

Delavan, Kan.

◆

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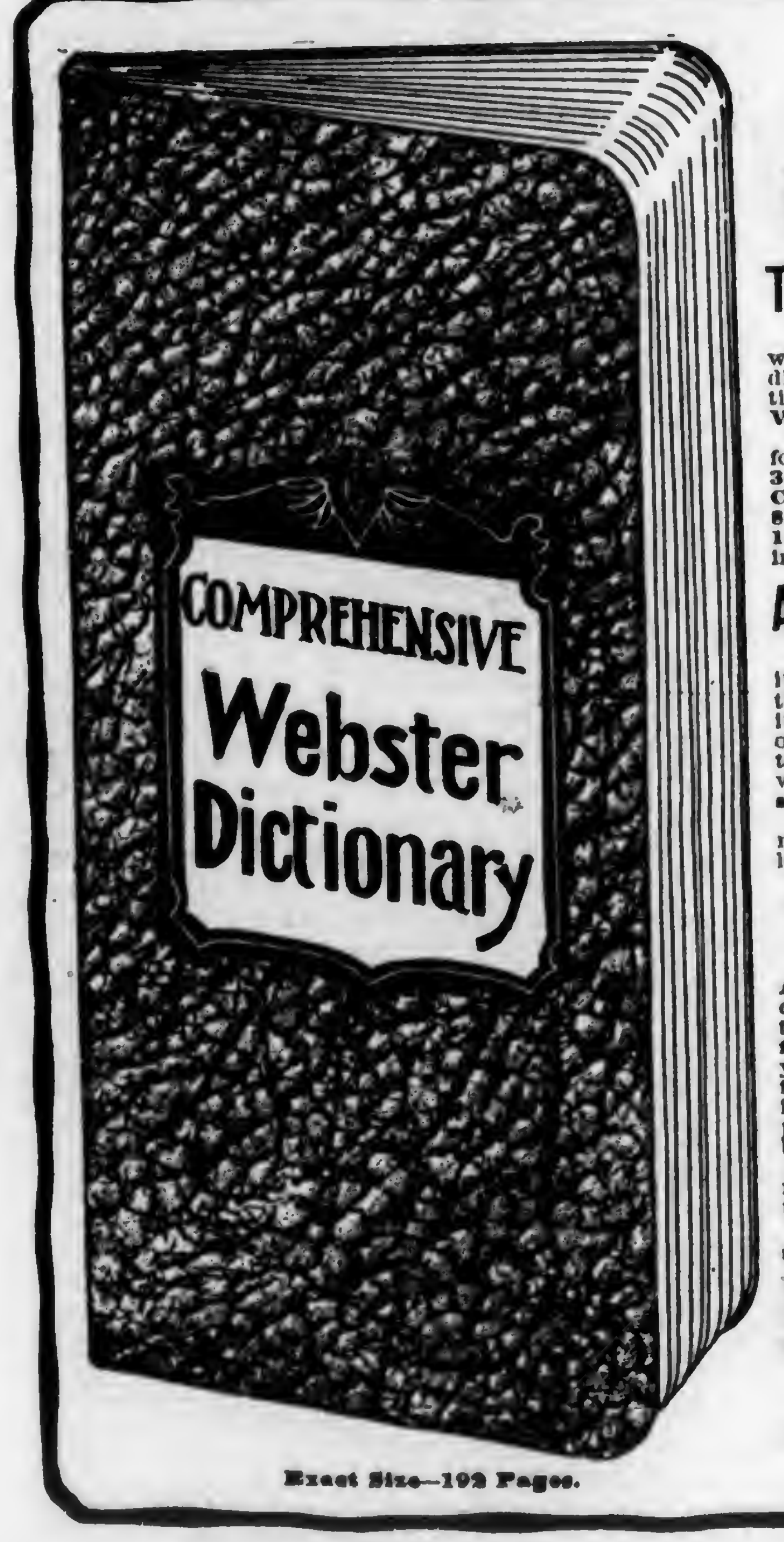

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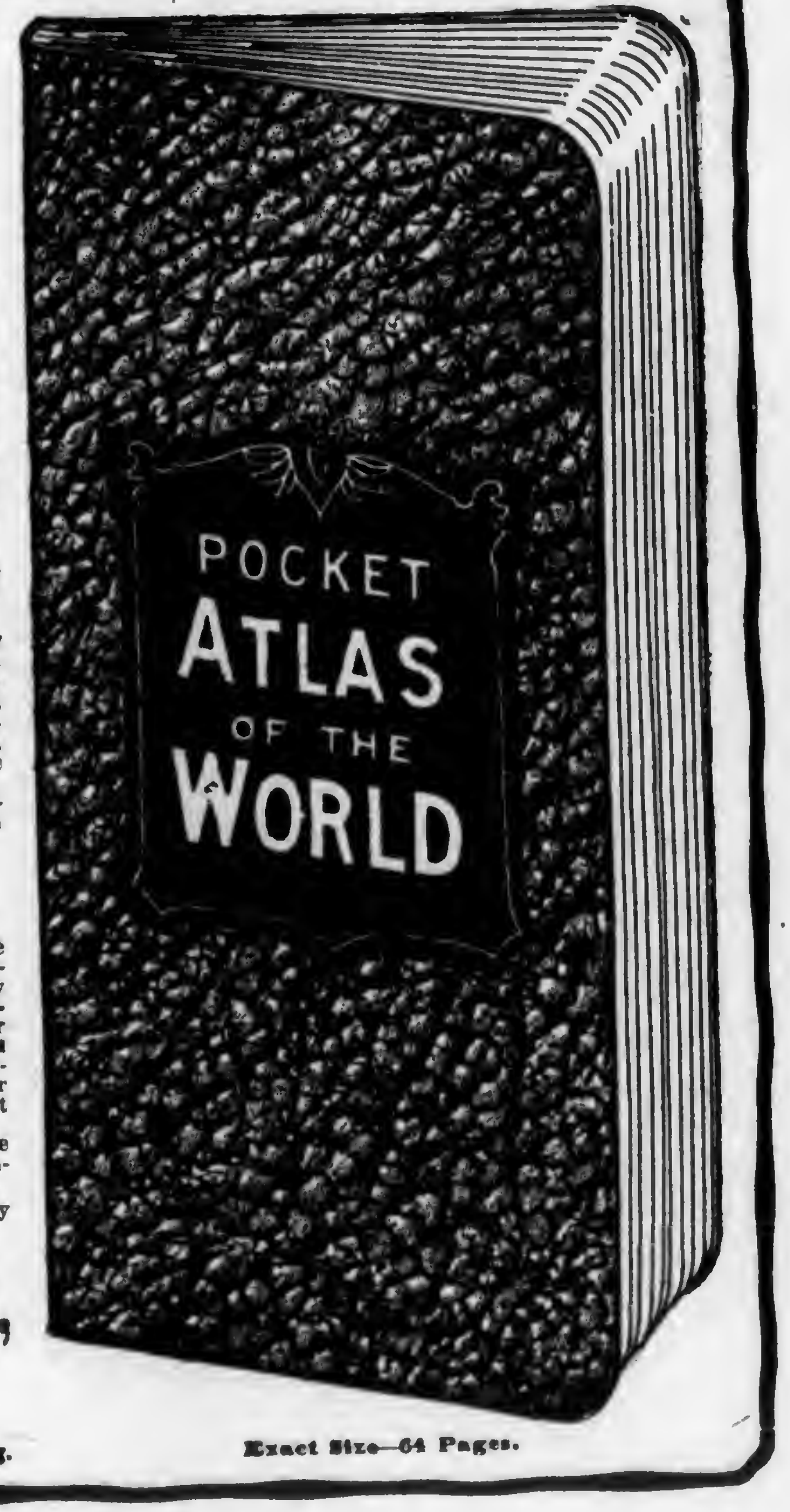

Exact Size—64 Pages.

Mistakes, Failures and Successes.

In this department we publish the Mistakes, Failures and Successes of our subscribers. They are equaly instructive and necessary, pointing the way to success. Subscribers are cordially invited to send accounts of efforts they have made which resulted in failure, as well as those which proved successful. Give in a few words your experience of anything connected with farm or household work. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Only helpful communications of value to P. F. readers will be accepted. The head of the column will be considered the position of honor each week. Send al' communications to Geo. T Pettit, Oneida, Kan.

Success with New Celery Culture.—In the P. F. for Dec. 13, Mr. Savage, of Colorado, tells of failure with this method and seems to conclude that it is an unsafe way of growing celery. His is only one of many trials, and a goodly number have succeeded. If the soil and environment are right for growing first-class celery in the old way, why can it not also be grown by the new method? There may be soils that will grow fair celery in the common way, and will not produce good celery when set close together, as in the new method, but I believe that where conditions are best for growing celery in the usual way, it can be grown very successfully in the new way. The past season we grew standard varieties of celery and of celeriac in our garden, which is a heavy clay with some loam. The plat of ground was well drained and moderately rich. Seed was sown in May to get plants to set out; these were watered occasionally and were shaded. About the first of July they were set out 6x7 inches apart in a bed which had been used for early vegetables, manured, and incidentally freed from weeds. A row of 4-inch tile was buried a foot deep in the middle of the bed, the bed being rounded up a little over the tile. Accumulated waste water from the kitchen was poured into the mouth of the tile to serve for irrigation. The celery and celeriac did poorly during the summer, but made a wonderful growth when the fall rains came in September. The celeriac withstood the dry summer better than the celery, and grew as well as the celery when good rains came. The ground was completely shaded by the plants and no weeds grew. But their shade did not bleach the stalks enough on account of the mound-shaped bed, and so the plants were bleached with refuse tile drains. The largest single plants would easily have sold for 10 to 15 cents in city markets. The best plants grew on the highest part of the mound, directly over the irrigating tile. There were about 175 plants on the 4x15-foot plat. On better, more level ground, 150 ten-cent plants could easily have been raised, and that would have meant $15. This clay is not the best celery soil by any means, and I think the trial shows that celery can be grown successfully by the new celery culture if it has the chance which it deserves.

Berea, Ky. E. TAYLOR JUDD.

Secret-Nailed Roof.—A mistake which most people make in putting on roofs is in puncturing the shingles and nailing them near the end. I have found the life of a roof to have been doubled by nailing in the middle only, having shingles to reach three laths. You see the next shingle will cover the nail, while the nail of the second shingle will pass through the top of the first shingle, which will hold it straight and to its place. We all know that in the old way of nailing shingles on, decay starts around the nails and the shingles pull the nails out. You may think that the shingles will warp up more by not being nailed at the lower end, but they will not. A shingle that will warp will split or draw the nail within a short time anyway. W. E. STICKLEY.

Strasburg, Va.

[Nailing the lower ends of common shingles certainly is a bad practice, and I did not suppose that anyone did it any more. Every shingle should have two nails, however, and cut nails are better for shingling than are wire nails. Rust will eat the wire nail in two.—ED.]

Carbolic Acid and Turkeys. — When you take your young turkeys from the nest, dampen them with a solution made of 10 drops carbolic acid in one pint of water. Continue the treatment once a week, making the solution a little stronger as the turkeys get older, and you will not be troubled with lice. Also drop a few drops in the coops every day to keep them healthful.

Linnville, Ark. ROY BARKLEY.

Selling Feed and Young Stock.—One great mistake which the farmers of this country are making is in selling feed (grain, hay, etc.) off the farm, which should by all means be fed on the farm; also in selling young stock, such as calves from 6 weeks to 3 months old. They only bring a small sum at best, while if kept to maturity and the products of the farm fed to them, there would be a double gain. But to sell both the feed and the young stock is an almost fatal mistake. A. T. ALEXANDER.

Greeneville, Tenn.

To Double Wear of Rubber Goods.—Where one has a great deal of walking on frozen ground, the soles of the rubber shoes soon wear through. When they begin to get thin, take an iron last, also get some shoe nails half an inch long. First put a light insole in the rubbers, then proceed to put a bottom on outside, of good sole leather. Put one tap on the heel and you will have a pair of rubbers that will outwear two pairs without the extra soles. I am now wearing a pair treated in this way that I have walked in all winter. C. E. SMITH.

Chuckey City, Tenn.

Grafting Large Trees. — When it becomes necessary to graft large trees with numerous branches to be grafted, it takes about three years to complete the operation in a way that will not shock the vigor nor impair the vitality beyond recovery. The first year I graft about one-half, taking the upper and outer branches, as these are the most vigorous and in the best condition for grafting. This increases the flow of sap to the remaining branches and puts them in the proper condition. These are grafted the two following years, about an equal number each year. This method gives healthy, vigorous grafts all over the tree. A mistake I made a few years ago was in grafting the under limbs first; the scions grew, but remain puny and delicate. I usually have about 90 per cent. of the scions to grow.

Fisher, Pa. S. A. HINDMAN.

Effect of Tile Drainage.—Last season was very wet and we now see the necessity of a more thorough drainage of our soil. We have one field in particular that will give an example of the benefit of good tile drainage. It is a piece of new land and is therefore quite rough and difficult to drain with open furrows. We put a tile drain about half way through the field in the lowest ground and last year planted the field to beans. It was so wet that the beans came up only on a few of the highest knolls and about a rod and a half on each side of the drain. We planted the beans over, but the season continued so wet that only a part of them came up, and what did grow of the replanting were not worth pulling. However, the beans around the drain grew and covered the ground and ripened all right. Within a day after each rain the ground over the drain would be dry, while away from the rain it would be all water and mud. We lost more in failure of last season's crop on that field than it would have cost to drain it.

Davis, Mich. BURTON SHINGLETON.

Pitting Potatoes. — Many potatoes are lost every year from freezing. It is, therefore, important to give proper protection against the penetrating frost of zero weather. The following method is perhaps the best for cold climates. Excavate earth to the depth of 5 inches and width of about 7 feet, and as long as may be necessary to hold desired quantity of tubers. Pile potatoes up nicely, letting them come within 4 or 5 inches of edge of pit, then cover with nice dry straw to a depth of say 4 inches after it is compressed, being careful to get it distributed evenly over the pile. Cover this with earth to the depth of about 6 inches. Smooth this down nicely and again cover with straw to about twice the depth of the first covering, then cover again with earth to about same depth as first earth covering. The second covering of straw provides an air-space through which the frost will not readily penetrate. In pitting seed potatoes, allow first covering of earth to freeze before putting on second covering of straw and earth. W. H. ZIMMER.

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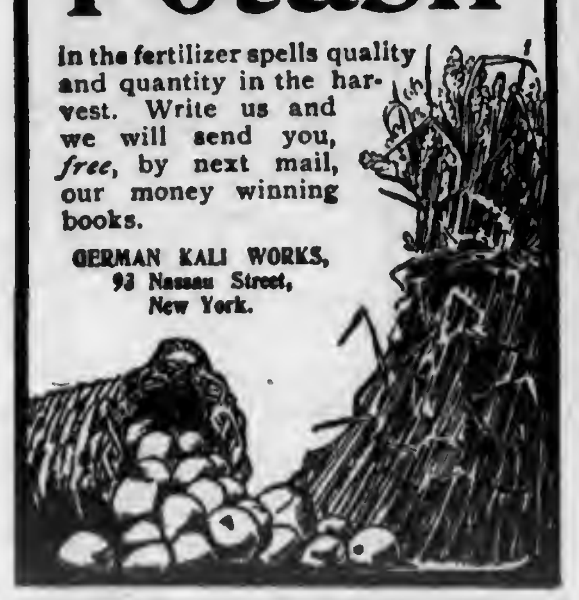

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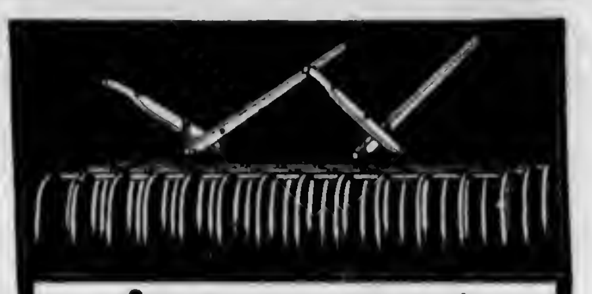

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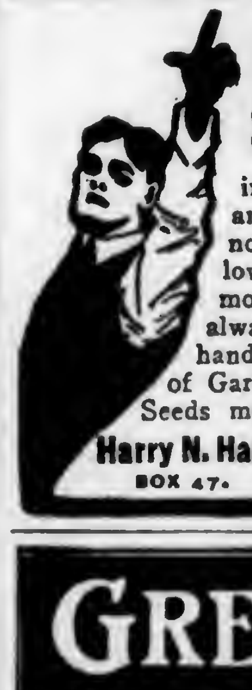

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Situated in Fairfield Co., Conn. The country is hilly; the level land being mostly sandy soil. Tobacco is the principal crop raised; prices are low this year, 10 and 12c. per lb. is the average price received. Have had some sleighing this winter. Mild weather. All grains are high; oats, 45c.; corn, 72c.; potatoes, 90c. per bu.; butter, 30c. per lb.; eggs, 25c. per doz.; hay, $20 per ton; horses bring a good price, cows sell from $35 to $50 per head. S. E. KELLOGG.
Danbury, Conn., March 18, 1903.

Tipton, Mo., is in the centre of the State, on the Mo. P. R. R., 163 miles west of St. Louis, in sight of the great lead and zinc mines, which are running at full blast. Weather has been bad lately; rain, snow, mud and freezing alternating. The roads are impassable; our gravel roads are nearly ruined. The first of March is our moving time, so they have to go anyhow, mud or no mud. There has been a good deal of land changing hands this spring, capitalists taking the mineral lands and the farmers have to hunt for new homes. Land is going up here every day; farm land, $50 to $75; mineral land, $100 to $500 per acre; town property in proportion. Stock is high, horses, $75 to $150; cows, good fresh, $50 each; hogs, stock, 8 to 10c. per lb.; sheep, good, $10 per head; corn, 34c.; oats, 30c. per bu.; hay, timothy, baled, $8.50 per ton; butter, 15c. per lb.; eggs, 11c. per doz.; hired hands, from $20 to $25 per month and board. Weather so bad no work being done. Wheat looks bad; grass good. Stock all right. Health not very good; lots of la grippe. MRS. JOE W. HICKMAN.
Tipton, Mo., March 14, 1903.

Located 6 miles from Bandon, at the mouth of the Coquille River, in the southwestern part of Coos Co., Oregon. The winter here has been very severe on stock, for most of the stock runs out during the winter. We have had lots of cold, rainy weather, considerable frost and some snow. Principal industries here are lumbering, coal mining and dairying. This being a rainy climate, we very seldom lack for plenty good grass and pasture. Garden crops do well here without any irrigation. This is a splendid fruit section fo. small fruits, apples, plums, prunes, pears and some varieties of cherries. Prices at present: Potatoes, $1.25 to $1.50; barley, $1.25 per cwt.; eggs, 20 to 25c.; chickens, $3 to $4.50 per doz.; horses, $50 to $150; cows, $25 to $50 per head; beef, 6 to 6½c., dressed, wholesale, and 10 to 17c. retail; pork, 6½c. wholesale, 8 to 17c. per lb. retail; apples, per box (1 bu.), 45 to 60c.; butter, 50c. per roll; good cheese, 15 to 20c. per lb. E. M. CANTERBURY.
Bandon, Oregon, March 12, 1903.

We are 6 miles north of New Castle, Pa., where are located the largest tin plate mills in this country, besides manufactories of almost all kinds. Our markets are good. Everything the farmer can raise is easily sold at good prices. Little land is for sale, but brings $60 to $80 per acre, according to improvements. Our fuel is bituminous coal, which sells at $2 per ton at the mine. We raise wheat, corn, oats, rye, buckwheat, potatoes and all kinds of fruit and berries in abundance. We had a fine crop of apples, peaches and pears last year; lots of apples for sale now at $2.25 per bbl. Persons who sell produce to private customers get the following prices: Apples, $1 per bu.; apple butter, 80c. per gallon; eggs, 25c. per doz.; butter, 32c.; lard and sausage, 15c.; dressed chickens, 20c.; turkeys, 25c. per lb.; potatoes, $1; beets and parsnips, $1 per bu.; wholesale price of bran, $22; middlings, $25; hay, $17 per ton; corn, 70c.; wheat, 75c.; oats, 35c. per bu.; cattle, $5.50; dressed hogs, $8.50 per cwt.; stock ewes, $4; cows, $40 and up per head. Winter is open and roads bad. J. B. JOHNSTON.
New Wilmington, Pa., March 18, 1903.

Located in Northwestern Arkansas on main line of 'Frisco R. R. Lots of wet weather. Everyone behind with their work. Wages, men, $1 to $1.50 per day, $15 to $20 per month, with board; girls, $1.50 to $2.50 per week. Peach crop is killed for this year; good prospects for a big apple and berry crop. Fruit is the money crop here. Horses, $25 to $150; cows, $20 to $75 per head; fat hogs, 5½c. gross; fat cattle, 2½c.; chickens, hens, 4½c. per lb.; corn, 50c.; oats, 35c.; wheat, 70c.; potatoes, $1; sweet potatoes, 75c. per bu.; hay, $10 to $12; straw, $4 to $5 per ton; eggs, 12½c. per doz.; butter, 12½c. per lb. Lots of land changing hands at $50 to $150 per acre, according to the orchard on the land. CHAS. C. COTTRELL.
Springdale, Ark., March 14, 1903.

Locaten in Southeastern Kansas. This is a fine farming country, a good soil, good home markets. Nearly everyone uses natural gas for fuel and lighting. This county has a large number of brick plants, glass plants, smelters, paper mills, sugar factories, etc., using gas for fuel, and employing hundreds of men. Natural gas is the principal fuel for all purposes. Petroleum is being struck in large quantities. Very wet this winter. No plowing done yet. Farm hands scarce at $15 to $20 per month; land worth $20 to $75 per acre; wheat, 63c.; corn, 34c.; oats, 31c.; potatoes, 65c; apples, $1 per bu.; butter, 20c. per lb.; eggs, 12c. per doz.; chickens, 8c. per lb.; hogs, $6.50 per cwt.; cows, $20 to $35; horses, $40 to $125 each; good schools and churches. M. G. SEARCY.
Cherryvale, Kan., March 14, 1903.

Situated on the S. R. of B. & O. R. R., at Green Springs, W. Va., 15 miles from the queen city of the Alleghenies, Cumberland, Md., the most beautiful country in W. Va. Fine farming land. Greatest peach orchard in the State located here. Potomac River affords a great summer resort; healthful country. Good schools; well educated people. Farm produce ranks high. Eggs, 15c. per doz.; butter, 20c. per lb.; potatoes, 75c. per bu.; hay, $20 per ton, very scarce; pork, 14c.; beef, 15c. per lb. Splendid location for shipping produce. The extension of the Wabash R. R. passes through here. Weather fine for early farming; farmers are all at work. The Potomac White Sand Co. have opened up a plant here. Finest white sand in America here for making glass. MISS L. W. WALKER.
Green Spring, W. Va., March 16, 1903.

Located in Western New Jersey, Warren Co., 8 miles northeast of Stroudsburg, Pa. Prices: Hogs, 7c.; veal, 9c. per lb., dressed; eggs, 16c. per doz.; wheat, 85c.; corn, 60c.; rye, 55c.; oats, 40c.; potatoes, 70c.; onions, 65c. per bu.; long rye straw, $12; hay, $15 per ton. Principal occupations are farming and stock raising. J. M. MICHAEL.
Dumfield, N. J., March 17, 1903.

Located in Washington Co., midway between the Choctawhatchee and Chattahoochee Rivers, and the State line and St. Andrews Bay, on the L. & N. R. R., and two north and south railroads talked of; one certain to be built. A great many Northern people are settling in here. Most crops were good last year. Most farmers are well advanced with farm work, although it has been a wet spring. The acreage of cotton will be somewhat larger this year, especially long staple cotton. Oats are looking very well; some corn and watermelons are being planted this week. Prices: Corn, 80c.; oats, 60c.; seed oats, 90c.; peanuts, $1.25 per bu.; cotton, 8c. per lb.; hay, native, $16; Northern, $20 per ton; potatoes, 40 to 45c. per peck; sweet potatoes, 50c. per bu.; eggs, 10c. per doz.; butter, 25c. per lb.; chickens, 25 to 30c. apiece; good farm horses and mules, $100 to $150 per head; farm help, $10 to $15 per month with board, $15 to $18 without board; farms, $3 to $25 per acre. Our town put in waterworks and telephone service this spring; telephone will be extended to country on all sides. E. Y. ADELSBERGER.
Chipley, Fla., March, 16, 1903.

Located 8 miles southeast of Ames. The soil is a sandy loam, the country is rolling. We are enjoying fine spring weather. The past season has been very wet; all crops were drowned out on the Shunk River bottom. Farming will begin in about two weeks. Prices of produce are as follows: Corn, 29c.; oats, 26c.; potatoes, 65c.; barley, 32c.; wheat, 56c. per bu.; eggs, 14c. per doz.; butter, 18c. per lb.; cows, $18 to $30; horses, $60 to $125 each. LESLIE NELSON.
Ames, Iowa, March 16, 1903.

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THE KEYSTONE TO SUCCESSFUL FARMING

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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

All Aboard for Better Tillage.

The time has about arrived when Northern farmers begin plowing, or fitting land for spring crops. There is one matter I want to call particular attention to, after more than one-third of a century of experience. It is the working of the land a good deal before putting in the seed. First, this is to make a finer, firmer, better seed bed for the little roots to grow in. It would usually pay well for this reason alone. No plant can do its best when its roots are working around among clods and chunks and open air spaces in the soil. Think a moment, dear reader, and tell me if that is not good business sense. If the soil is made fine and mellow and worked down fairly firm, so it is not full of little open spaces, cannot the plants start quicker and do better? There can be but one answer. You know it. But do you do it? In the Northwest, where land was plowed in the fall for spring sowing, and it is important to get the seed in as early as possible, there is not much chance for increased tillage. But, mark the words, as the country grows older, and farmers get less acres, and have to make their money out of crops more, instead of the rise of land values, they will put in less of these early crops and have time to prepare the land better. It will pay, under proper management; they will come to it in due time. More horses and more men will be employed and more money made. In the North generally, for the oat crop, or oats and peas, whether ground was plowed in fall, or not, there must usually be haste about getting the seed in the ground. One cannot always put as much work on the land as he knows would pay. If the spring is dry, and the work is practicable, under proper conditions, prepare the ground well for these early crops; it will pay. But do not do extra tillage on land when it is wet. You may on many soils do more harm than good.

But the great chance for making more out of tillage is on land that you intend to grow later crops on—corn, potatoes, Hungarian grass, or other millet, or other late crops. Yes, here is your chance for making the most out of working land before putting a crop in. Plow just as soon as the ground is dry enough to work without injury. It is never wise to plow when the soil, if at all clayey, is wet enough so horses' feet will pack the earth where they step, so it will dry up later into a ball, or clod, that does not readily pulverize. Remember this as regards spring plowing, always. On sandy land there is not this danger. In some parts of the North, where land is frozen all Winter, they plow in the fall for corn, etc., all right. This land should be harrowed just as soon as it is dry enough to work. Spring-plowed land should be harrowed down as fast as plowed, if weather is at all drying. Never leave it to dry out hard. You are losing water you may need soon. But another matter now. First, you should get the fall-plowed, or spring-plowed land into condition to sprout any weed seeds that are near enough to the surface to grow, just as soon as possible. If the soil is well worked down, made reasonably fine, and the air let into fall-plowed land, or spring-plowed that has dried and crusted after a rain, all seeds that will start at that season will soon be about it. Then work the ground again thoroughly in about a week and destroy them, and start more. Keep at this until planting, or sowing time. It means cleaner land and crops. It means less work to keep corn and potatoes clean, or rather the ability to keep them more nearly perfectly clean by the use of weeder and cultivator. And that is business, too. Weeds use up water and plant food. They rob the crop more or less, and as a result, the farmer. The day for fighting them with hoe and hand pulling in the rows and hills is pretty much passed, for ordinary farm crops. Plow early, destroy nearly all of them before a crop is put in, and then by timely use of a weeder wherever land is not very stony, keep the ground so frequently stirred that what few may start later are unable to get up to daylight. The same thoroughness will help crops that are sown.

But now let us come to the biggest matter of all. The soil is well supplied with plant food. Most farming land has enough for many large crops; but the trouble is but little of it is available in one year. The great mass is locked up, naturally, and nature, by means of frost, sunshine, moisture, etc., is slowly unlocking it for crops, a little each year. Are you satisfied with this small amount, about what the ordinary man with average work gets? If so, all right. If you want more, larger crops, more money, more comforts of life, you can easily compel nature to unlock more of this inert plant food in a given season. That is plain English, and it works out. You can pay money for fertilizers, if you prefer; some may be needed anyway; but here is a great chance for helping yourself at the expense of a little more tillage, more labor that is right in your line. Now then, if you want to do this just keep working the fall-plowed, or early spring-plowed land, for late crops, every few days. Never let it dry up and crust over after a rain. Use cutaway, disk, spring-tooth, or most any kind of a harrow, or a fallow cultivator. Work the land deeply. Stir it roughly part of time, doing as much work as will be done by spring-tooth harrow or cultivator. The more you can mix it up the better. At last get it moderately firm before planting. Incidentally you have killed the weeds that your tillage has helped sprout, as we talked of first. Then you have been making more plant food ready for your crops, besides saving what the weeds would have eaten. Then, again, your soil is in a far better condition for the roots to go around in in search of food—several birds killed with one stone. I don't believe in killing birds, though. No, better say, "This tillage may help you greatly and pay several times over." Now why do I say "May help you?" Why not "Will help you?" Because a farmer must be a level-headed business man and have everything right. If land was wet, needing drainage, tillage might not help much until land was drained. If land is very sandy, tillage may not pay so well because there is little plant food in the soil in an inert condition to work on. But comparatively little land is in this condition. Again, unless the farmer has supplied a reasonable amount of vegetable matter in the soil, tillage cannot unlock as much plant food, no matter if soil is well drained and has enough clay in it. This is one reason why the good farmer likes to feed his crops out on the place—so he can return the vegetable material to the land instead of selling it off. It is one reason why he grows a sod often in a regular rotation of crops. Oh, how many things we have to look out for! How much we need to know! No one better practice alone will bring you prosperity. But if everything else is about right, there is big money in working land frequently for several weeks for crops that are to be put in a little late. Make the time for this spring fallowing as long as you can by beginning early. If any man living has the right to say these things, the writer has, as he wrested success out of land, with almost everything against him, largely by means of clover in rotation and a large amount of tillage. The tillage part has brought him thousands of dollars clear money.

Health Hints. — Two Meals a Day and When to Eat Them. — Prof. A. L. Burdine, P. M. & F. College, Nettleton, Miss., writes as follows: "If one is to eat but two meals a day, which two should they be? Doctors disagree. Dr. Dio Lewis says eat breakfast and dinner at about 6 and 12 o'clock. Dr. Dewey says eat dinner and supper at about 12 and 6 o'clock. One would have us go without breakfast, and the other to drop the supper. Your opinion on this question would be greatly appreciated." I do not think it of any great importance which one of these plans you follow. The end is secured fairly in both cases—that one eat less. Both of these doctors, however, are evidently advising people in accordance with prevailing customs, as to hours of eating, rather than telling them what would be the very best practice. Let us bring common sense to bear on the question. One can get used to most anything, but is not a space of six hours between two meals and then eighteen between the next two an unreasonable difference? I think so. True, we are not working so much in the night as in the day, but the work of heart and stomach, etc., is going on and this takes a large amount of force. Following the plans of either of the authorities given above you would have about one-half of the day and all of the night, say fully three-quarters of all the demand for food to run the body for 24 hours, drawing on what was furnished at one meal. I am sure I can do better than this; can so eat the two meals that the supply of nutrition in blood will be kept more uniform. Hence when at home, as I am now, I eat the first meal about 8 A. M. and the second about 5 P. M. This gives about nine hours and the work of the day largely between the two meals. I take sufficient exercise, however, before 8 A. M. to make the night season draw about equally on the food supply, in connection with the more hours heart has to pump and lungs to breathe, etc. To my mind this is a more perfect plan than either of the doctors advise. A little study must show anyone the truth of this. I know the hours given for meals are not as practicable for many as those of the doctors. There is the trouble. But otherwise it is the best plan. Let me tell you how I did all winter at hotels. At first I ate three meals a day, but light ones (particularly at noon), never any more than was eaten with a relish, and avoiding fancy dishes. For some two months the weather was pretty cold and I was gaining in weight slowly and this went all right. Then I became conscious that I was not at my best. The weather was getting milder, and I was further south, and I had reached my maximum weight. Then I dropped out the dinner, as a rule. I ate breakfast at eight and supper at six, with the rest. The first day or two I ate more at night, but in three days I was eating no more for breakfast and supper than I ate when taking three meals a day. The two meals were taken with a keen relish, every time. I had to pay for the one I did not eat just the same, but prime health is worth more than old customs. In the aggregate I got more pleasure out of eating twice a day than when going through the motions three times a day. It seemed too bad when at a fine hotel, where they had an extra spread Sunday noon, that I must pay and not eat, but I did. If I craved a little fruit I sometimes ate an apple or two at noon. My usual custom was to walk three or four miles while the rest were eating. In this way I held my own in weight and kept at my best in every way. Many have kindly sent me their experiences in this line. Let me give some selected sentences from a letter of one of our brightest readers, who lives in Oregon (name given privately, if desired). "Some four years ago my attention was called to the 'no breakfast' plan, and as I did not eat three meals a day with a keen relish, and was disposed to think wife did not cook as well as twenty years ago, I finally decided to try two meals a day. After a week or so I did not miss the breakfast, and dinner began to taste better. One night I did not seem to care for supper particularly, and went to bed without, thinking I would want some breakfast; but did not any more than usual, and ate nothing until noon. Then I had a relish such as one ought to have always when eating. I now frequently go from noon to noon without a bite, and feel the better for it. I have no inclination to overeat now at noon. A moderate quantity of plain food tastes good and satisfies me fully. I always eat slowly and enjoy it long as I can. Before following this plan I did not weigh more than 135 pounds at any time in twenty years. I now weigh 149. There is no question but what I am holding my own and doing better work under my present way of living."

There is food for thought in this quotation. This modification of Dewey plan makes it quite perfect—a good dinner and light lunch at night when really hungry. Thousands of our readers may improve their health by attention to this article—business men, physicians, ministers, lawyers, farmers who do not work hard physically, women, in fact all grown people except those who work hard early and late. Three good meals a day may not be too much for them, and still I am by no means certain that two good meals of proper food, at suita-

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A Saddle was returned at our expense a few days ago. Although it had been properly boxed, it was damaged by rats before being unpacked, according to customer's letter. Of course this was no fault of ours, but he got a new saddle just the same. Do you know of any other firm who would have given him the same liberal treatment? Why not buy your supplies from a firm with whom it is a pleasure to deal? All goods guaranteed and prices always lowest, quality considered.

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ble hours, would not be better for them, too. But this point I have not investigated so thoroughly. This I know, that most people who do not work very hard eat too much and pay the penalty in various ways.

T. B. Terry.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Cow Peas in Corn.—Subscriber, Loudon Co., Va.—"Is it practicable to sow cow peas among corn at last working, cut them when ready for hay, plow the stubble and seed to wheat? I do not see how the corn could be cut and shocked among the growth of peas." It would perhaps be practicable, but it certainly would be a job one would hardly undertake the second time. If the corn is to be followed by wheat you had better leave the peas out. It would be practicable and profitable to sow the peas among the corn, gather the corn and turn cattle in the field to eat the dead pea vines and the corn stalks, and then put the land in oats in the spring.

Availability of Fertilizers. — V. H. Marshall, Anniston, Ala.—"Please prepare an article setting forth the time required for the various kinds of plant food to become available, such as nitrate of soda, dried blood, cottonseed meal, sulphate of ammonia, kainit, sulphate and muriate of potash, tobacco stems, wood ashes, acid phosphate and bone meal." It would be pure quackery to attempt to fix a time in which many of these would become available, since this would depend so largely on local conditions as to moisture, etc. Nitrate of soda is very soluble and presents nitrogen in the form most readily at once available to plants, and if they are not in an active state to use it at once, the nitrate will soon be lost to the soil. Dried blood, fish scrap and cottonseed meal, and all substances containing organic nitrogen, must pass through the process of decay and nitrification in the soil, until finally it is in the form of a nitrate, like the nitrate of soda, and is then available to plants. The dried blood probably becomes available more readily than the fish scrap or the cottonseed meal, but what the difference may be is hard to say. All the forms in which potash salts are used are at once available, and they are soluble in water and can be taken up at once when dissolved. Sulphate of ammonia is in a form in which the nitrogen is more readily changed to a nitrate than in the form of organic matter, but on some soils it acts more as a poison to plants than a fertilizer. Wood ashes have their potash and other things in a very readily available form, while tobacco stems must go through the process of decay to release their plant food, except that a small part of the nitrogen in the stems is already in the form of a nitrate of potash and comes more quickly into use. Acid phosphate presents phosphoric acid in three forms, the ready available or water soluble, the reverted or citrate soluble, and the insoluble. That part which is soluble in water is at once ready to feed the plants and the rest will become available in time. The phosphoric acid in raw bone meal is all insoluble and becomes available with the decay of the bone. A small percentage of organic nitrogen becomes available in the bone meal quite soon. But, as I have said, it would be pure quackery for anyone to make a calendar of the time it will take for any of these materials to become available.

Fertilizer for Potatoes.—Frank Clifford, Belmont, Ky.—"Please tell me the best fertilizer for potatoes on a sandy loam." O. F. S., Quincy, Pa.—"Please give a formula for a good fertilizer for potatoes and corn, and say where I can get the materials in Baltimore or Philadelphia, and what they will cost per ton." Early potatoes need more nitrogenous manure than later ones and any kind will need more on a soil where no sod has been turned under. The best preparation for potatoes, or corn either, is a clover sod. Having that you can grow the corn or potatoes with little else in the way of fertilizers. The following will make a good fertilizer for potatoes and also for corn, but if you can make the cost of a complete fertilizer out of the corn crop you can do more than we have ever been able to do. Acid phosphate, 900 pounds; tankage or fish scrap, 600 pounds; nitrate of soda, 100 pounds, and muriate of potash, 400 pounds, to make a ton. Use from 500 to 1,000 pounds per acre, according to soil. The American Fertilizer Co. controls all the fertilizer trade north of the Potomac and the Virginia Carolina Chemical Company south of it. So no matter what company you buy from you will pay just what the Trust puts the price at. Acid phosphate will cost from $9 to $10 per ton, nitrate of soda and muriate of potash from $45 to $50 per ton. The place for you to buy is the nearest dealer in fertilizers. Probably the Armour Fertilizer Works, Baltimore, Md., whose ad. you will find in the P. F., will do as well for you as any. This will also answer the query of C. E Benschater, Uno, Va.

Alfalfa.—W. Scott, Cranberry, N. J.—"Have you had a Pool on alfalfa? I want to try two or three acres, and and do not know whether spring or fall is best time to sow." A. L. Engelbrecht, Lander, Md.—"I would like to have your opinion on alfalfa. I want to sow a few acres on land that had silage corn last year. I had an idea of sowing the alfalfa with some crimson clover with it to help keep down the weeds and give a light crop of hay. Will the crimson clover be an injury to the alfalfa? Had I better wait till another year and lime the land before sowing? I have a piece of land in wheat, from which I had mowed some timothy and weeds for hay and then worked the land weekly till seeding time. Could I plow the wheat stubble after harvest late in June, sow cow peas and make hay in time to put in wheat and sow clover on it again? Do you know anything about the New Era pea, which is said to be the earliest in cultivation? I have your book and Mr. Terry's. My soil is of good quality, but has been run down. I have a silo. Would it be better to sow rye or crimson clover among my silage corn at last working to mix with the silage?" As both of our friends ask about alfalfa we have united the queries. We believe that, as a rule, except in the extreme North, it will be better to sow alfalfa in the fall. We have had the subject up in the Pool some time back, and may some time take it up again for the benefit of the more recent subscribers. Some months ago we wrote in the P. F. quite an exhaustive article on alfalfa. It may help our friends to say just what we are intending to do. We have now a piece of land in wheat and hairy vetch, which we intend to cut for hay. The stubble will then be well prepared and sown with cow peas, on which we shall apply a heavy dressing of plain acid phosphate. These pea vines will be mown and cured for hay, and the land will then be plowed and deeply subsoiled and put in order for the alfalfa. We will apply about 10 bushels of lime per acre and harrow it in lightly before sowing the alfalfa seed. The seed will be sown alone at rate of twenty pounds per acre in early September. It will be a disadvantage to sow crimson clover with it, for the clover would injure it. Getting a good stand we will next season run the mower over it as soon as it is tall enough to catch and will mow it two or three times during the summer whether there is growth enough for hay or not. But sown in the fall, there will probably be a fair cutting the next summer. Now we would advise our friends to do likewise. Sow the land you had in corn in Maryland in peas. The New Era, Warren's Extra Early and the Early Black Eye are all about the same season. But in Maryland we would sow the Big Black pea, as it will give you a heavier crop. In New Jersey one of the early varieties may be better, but even there we would sow the Whippoorwill, and cut the hay and then prepare for the alfalfa. The land on which we are going to sow alfalfa has a very hard blood-red clay subsoil, and will have to be deeply subsoiled. On land with a more mellow subsoil this may not be needed. You can easily, in Maryland, sow peas after wheat the first of July, and make hay and then prepare the stubble with a disk cutaway thoroughly before sowing the wheat.

Clover Failing in Kentucky.—G. A. Campbell, Elizabethtown, Ky., writes a lengthy letter from which we take the following: "Land here is rolling but not rough. Surface water runs into ravines and basins, where the soil is rich and has good drainage from the limestone rock below. On the hills the limestone crops out in a red clay with some gravel. We use a good deal of manure and some fertilizer, too, but with all cannot get clover even on the basins where the soil is 16 feet deep. In places there is a good deal of blue grass, but there seems with all a lack of lime in the soil. In places where thirty years or more ago, where logs were piled up and lime burned, clover makes a fine growth. I have heard that where chestnut trees grow it is an evidence of a lack of lime in the soil. Chestnuts grow here right on top of the limestone, and in other places, too. I have been sowing cow peas for the last three years. They make a very good growth and help the following crops. We have good clover where cow peas grew the year before. On a portion of the best I am spreading lime that has been slacked for some time, but still seems to retain its caustic properties. So I will have to await results." There is no doubt in our mind that lime is what you need on your land. Land overlying limestone rocks is often more deficient in lime than land on granitic rocks. The granite soil is formed from the decomposition of the granite and partakes of the nature of the rock. Limestone is a sedimentary rock formed under water, and the soil above it is deposited there and has less to do with the rock below than other soils have. Most limestone valleys were formerly the sites of lakes and the limestone formed under water. Then as the water drained away there was deposited a rich vegetable soil on top. This soil is apt to be acid, and lime will correct the acidity. Clover will not grow on an acid soil, as the acidity is detrimental to the microbes that live on the clover roots and enable it to gather nitrogen from the air. On the contrary, the cow pea likes an acid soil and is injured by a direct application of lime. The cow peas will help you greatly in preparing the soil for clover, and liming after the peas have been grown will put it in condition for the clover to thrive. The lime you are spreading on the clover will doubtless show a good effect, but it would have done better had the lime been freshly slacked with water till it falls in powder. Keep up with the lime, but do not fall into the error that lime is a manure. It will sweeten the soil for clover and will help its mechanical condition, making it lighter and easier to work. One application in five or six years in connection with clover and manure and fertilizers will enable you rapidly to improve the productivity of your soil. Your limestone soil, too, will rapidly respond to applications of acid phosphate and potash, while the clover and peas will furnish you nitrogen, and the lime will hasten the nitrification of the organic matter in it.

Scrofula

It is commonly inherited.

Few are entirely free from it.

Pale, weak, puny children are afflicted with it in nine cases out of ten, and many adults suffer from it.

Common indications are bunches in the neck, abscesses, cutaneous eruptions, inflamed eyelids, sore ears, rickets, catarrh, wasting, and general debility.

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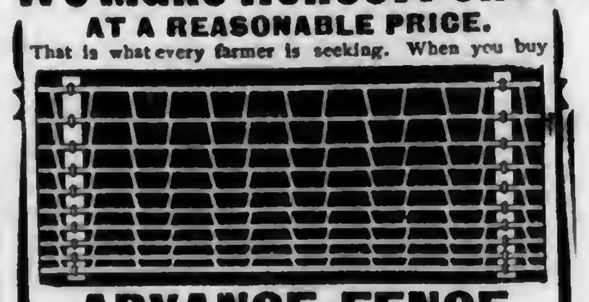

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Grass and Potatoes. — D. S. Thornburg, Dallas, N. C.—"I have a grove of oaks, not thickly set, and mostly small, around my house and want to sow some permanent grass for a chicken range. How should I prepare the ground and what kinds of grass, and how many pounds per acre? I have also a piece of bottom land, light, sandy and deep, with a clay subsoil. The land will make from 25 to 30 bushels of corn per acre. What potatoes should I plant and how should I fertilize the ground?" We would prepare the soil of the grove by plowing as thoroughly as possible and putting in fine order, and then would sow the following mixture per acre: Orchard grass, 10 pounds; tall meadow oats grass, 5 pounds; red top, 5 pounds; English blue grass, 5 pounds. Mix this, sow and brush in lightly with a smoothing harrow after scattering over 5 pounds of white clover seed per acre. If the land is thin use 300 pounds per acre of any good complete fertilizer. The bottom land which you wish to plant in potatoes would have been better for the purpose if you had sown some crimson clover among the corn last summer. But as this was not done we would prepare the land by good, deep plowing and harrowing. Lay off the furrows 2½ feet apart and scatter in the furrows 700 pounds per acre of the following mixture: Acid phosphate, 1,200 pounds; cottonseed meal, 600 pounds; muriate of potash, 200 pounds. Mix this in the furrows, using an ordinary bull-tongue plow. Cut the potatoes and drop them 15 inches apart in the rows. Cover by lapping a furrow from each side and before the potatoes come up and the young weeds are starting, harrow the ridge flat. Then as the potatoes appear run a weeder over them and kill all small weeds close around them, working lengthwise and crosswise the row. Then use the cultivator and work the crop flat.

Pencillaria. — Mattie Parks, Centreville, Tenn.—"Please tell me what you think of pencillaria. Will it pay in this climate, and where could I get some seed? It has been much spoken of as a hay plant and if you advise it I would like to try a patch. Also, do you think the drought-proof corn will do well in river bottoms in this climate?" Pencillaria is an obsolete name of a grass commonly called pennesitum spichatum. It is the same plant which was grown some years ago under the name of Pearl millet. It will make a heavy crop of forage, worth, when cured, about one-tenth of what Indian corn would be worth. The drought-proof corn ought to do well on your bottom land.

Cement Floors for Hen Houses. — Henry Hulett, Clymer, N. Y.—"I have two old buildings, 12x18, that I would like to make into hen houses. They are now on blocks at each corner. Could I put in cement floors and let the building down on it without walls, or must I have walls? If so, how much cement would be required for the walls and floors for the two buildings? Have plenty of sand and coarse gravel and would like to do the work myself." We would cut out a foundation a foot deep and the full size of the house. We would then fill this with coarse gravel from which the sand has been screened out. Then mix cement and dry sand, two parts sand and one cement. Spread it over the gravel and wash it in with water so as to grout the gravel together. When this is set mix cement and sand into the mortar and give it, the whole surface, a coat on top of the grouted foundation. When this is set hard we would suppose the building could be let down on it without injury, as it is not a very weighty structure.

Sowing Rape for Hogs.—H. K. Hall, Morris Crossroads, Pa.—"I have a lot in sod which has about run out. I wish to make a hog pasture of it. Would you advise me to plow and sow in rape? Of what value is rape as a hog pasture? Do you know anything about pencillaria, the new fodder plant now advertised? I wrote these inquiries about six weeks ago, but they were never answered." It will pay you very well to plow the land and sow it in rape. You will get a better growth by sowing it in rows wide enough to cultivate and work it several times. Of course you cannot make a pasture of it at once, and the rape sown in the spring will not come into use as a pasture until autumn, or August at least. Rape has a very good feeding value and will be very useful in keeping hogs in a thriving condition. The plant looks very much like rutabaga turnip except that it has no turnips at the root, and is very often sold for smooth kale, to be grown for garden greens, nowadays. For pencillaria see reply to Mattie Parks, Centreville, Tenn., in this issue. Your former letter never came to hand, or it would have been answered.

Apple Orchard in North Carolina Mountains. — Dr. F. M. Greer, Mabel, N. C.—"I have a two-year apple orchard in rye, sown last fall as a cover crop. How should I use this land the coming season with best advantage to the trees? Land is north cove and rather steep, was in corn last year. Would it do to let the rye go uncut and fall, the straw remaining as a mulch? I want to do nothing detrimental to the orchard." We would not let the rye grow to maturity, as it would rob the orchard of needed moisture, but would plow it under about the last of April or the first of May, and would work the land in some low hoed crop like Irish potatoes or cabbage, though the potatoes would be better, as they would not be worked so late as the cabbage. Then we would sow it again in rye or wheat for a winter cover and would sow with it some crimson clover, which may not do well in your elevated country, but if it does, will help very largely in the future growth of the trees. Following this practice while the trees are developing in size, we would finally seed the orchard down in grass as the trees go into bearing and simply keep the grass cut several times a year and leave it on the ground as a mulch, giving the soil an occasional top dressing to keep up the fertility and depending entirely upon the fruit for profit.

Cow Peas in Ohio. — J. K. Martin, Troy, Ohio. — "I would like to know what kind of cow peas would be best in this locality, on a sandy clay soil, for hog pasture, and would the same kind do to let ripen for hay and seed? What kind of fertilizer should be used and

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An interesting letter to our readers from Hon. H. L. Dunham, Ex-Mayor of Dover, N. J.

Dover, N. J., Nov. 12th, 1902.

I had both kidney and liver trouble for over three years. I tried the best physicians in Washington, D. C., Pittsburgh, Cincinnati and Chicago, and regret to say that I received very little benefit until I commenced taking the great kidney, liver and bladder remedy, Dr. Kilmer's Swamp-Root. After taking the first bottle I noticed quite a change which satisfied me that at last I had found the right medicine. I continued on until I had taken four bottles, by this time I noticed such a marked improvement in my health, in every way, that I felt satisfied I was cured. But to be positive beyond a question or doubt, I was in Chicago during July, 1902, and went to the Columbus Medical Laboratory, No. 103 State St., and had them make a thorough and complete microscopical examination which showed my kidneys and liver to be perfectly well and healthy. I have their written report in my possession, signed by the doctors of the above Medical Laboratory, which is recognized as one of the best in the country.

Very truly yours,
H. L. Dunham
Ex-Mayor of Dover, N. J.

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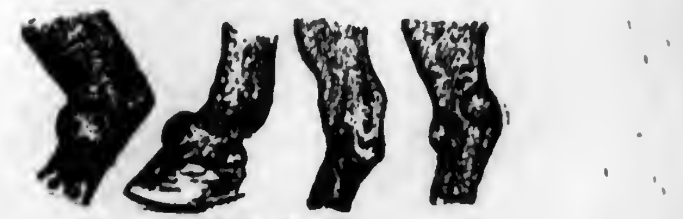

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Written guarantee with every bottle, constructed to convince and protect you fully. The need of second bottle is almost improbable, except in rarest cases. Guarantee covers effectiveness of one bottle.

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The cream makes the butter,
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All bring in the cash.*

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how is the best way to sow them? Never heard of their being tried in this county; would like to make an experiment on a small scale." You are about on the northern limit where the cow pea would be of uniform success. We think it would be well to try more than one variety so as to see which is best suited to your needs. The two varieties which we would suggest are the Early Black Eye and the Whippoorwill. The first is early and the second a little later and rather more productive. If you want them for hogs we would plant them in rows wide enough apart for horse cultivation and give them clean culture. Plant the seed not earlier than the first of June. For hog pasture they are more valuable if the peas have fairly matured and are full of pods. If we were sowing them for hay we would sow them broadcast, about one bushel per acre, on freshly plowed land and harrowed in or drilled in with a wheat drill. We would never sow until the ground is warm enough to plant beans of any kind.

Seed Corn. — Remind people of the P. F. to sprinkle their seed corn with water in which coal tar has been dissolved to keep crows from pulling it up. It requires about a gill to a bucket of water. Dissolve thoroughly and sprinkle so every grain will have the smell and taste, but not enough to make it sticky. People are more apt to read what you say than others, and I want it to get in before it is too late to do any good. L. T. W.

Fertilizers.—A. J. Britton, Seaboard, N. C.—"What are the best and cheapest chemicals for mixing with swamp dirt, from a swamp where gums are the principal growth, to make a good manure? I think the sprinkling through it of the ordinary manipulated guano pays, but I am of the impression that materials can be gotten in a cheaper and less bulky shape." The best way to use the swamp muck would be to get it out in the fall and pile it up in layers, alternating with a coat of lime, and let it remain in broad, flat heaps all winter to get mellow. Then it should be hauled out and spread broadcast on the land. It is a waste of time and money to buy chemical fertilizers to mix with swamp muck with the idea of making it all a fertilizer. Whatever fertilizers you need buy the materials and mix them in due proportions, remembering always that the lowest priced fertilizers on the market are the most costly. What you want in a fertilizer is the proper percentage of phosphoric acid, nitrogen and potash, and what the percentage of each should be will depend to some extent on the crop it is to be used on, and the character of the soil. For phosphoric acid you will need the ordinary dissolved phosphate rock or acid phosphate, as it is called. Nitrogen you can get in cottonseed meal, and potash in the muriate of potash, and all of these can be bought from the manufacturers or dealers in fertilizers. There are no more concentrated chemicals that you can profitably use in making your fertilizer.

Keeping Sweet Potatoes.—S. D. Turner, Brush, Ga. — "For the benefit of those who have been making inquiries through the columns of your valuable paper, I will give my plan for keeping sweet potatoes, which has always been successful when the crop was dug at the proper time. My plan is to dig as soon as the crop is well matured and immediately place them in hills. Now a few words in reference to making hills. First, scrape away the top soil, making a complete circle as large as desired, then fill the cavity with good, dry hay or straw, pine will do if nothing else is convenient, making it appear like a huge hen's nest; then comes the potatoes. Put them in about fifteen or twenty bushels to the hill, rounding them up to a point at the top like a sugar loaf. Cover the potatoes with a good coat of straw, then take four foot boards, setting them upright so that the edges will lap. Then commence with a thick layer of dirt around the bottom to hold the boards in place; keep piling up the dirt until boards are entirely covered with a thick layer of dirt well packed, making the surface smooth so as to shed water. For many years this plan has proven a success by the writer, and is now adopted by most of the farmers in this section with some slight variations. Be sure to dig the potatoes at the proper time, which is to dig as soon as they are well matured. Many people are careless, and allow the potatoes to become frosted before digging, then they are worthless and will surely rot." Our friend's plan will do fairly well in a mild climate. You remark that pine straw will do if no other is at hand. Our experience is that it will not only do but is far better than any other straw. If the pine leaves are raked up in dry weather and put where they will keep dry there is no cover that will keep as dry or resist frost better. But the hills will keep better if they are allowed to dry off with no cover but the straw till the weather gets cold. We would prefer to use the boards to build a shed over the hills and to prevent the earth cover from getting wet at all. Dry earth will keep out cold much better than wet earth. But the ideal way to keep sweet potatoes is to have a regular house for them, with fire heat to dry them off when first stored, and then keep them at a comparatively low temperature during the winter. In a house of this sort they have been kept in fine condition till the following August.

Cow Peas in Oklahoma.—H. F. Meyer, Youkon, Okla. — "What variety of cow peas will be best in this section for seed or hay or both? Would it be a good plan to plant new orchards in peas every year for seed only, vines to be plowed under in fall for wheat as a winter cover?" Any variety of cow peas should thrive in Oklahoma. Probably the best will be the Large Black pea, which you can get in St. Louis. If the peas are planted in rows and cultivated they will be a very good thing in the orchard. That wheat should be used merely as a soil cover and cut early for hay or plowed under for the trees. If allowed to make a crop it will seriously damage the growth of trees by depriving them of moisture.

Land Plaster. — Peter Huffman, Elkhart, Ind.—"Please tell me through the P. F., what fertilizing value land plaster has, if it has any at all. I am going to sow clover seed this spring on sandy land that had corn growing on it last season. The land is poor. What can I use as a fertilizer to get a good stand of clover?" Land plaster is sulphate of lime. It is more of a stimulant than a fertilizer. On soil which has an abundance of potash in it, land plaster will have the effect of bringing the insoluble potash into use for the plants and thus will produce an effect which sometimes deceives the farmers, who imagine they are getting the effect from the plaster, while the plaster is simply enabling them to get at what they have already in the soil. If your land abounds in potash, plaster will have a good effect upon it. If not, probably you will see no effect from it. No one can predict what will be the effect of an application of fertilizer upon any particular soil until he has tried it. We suppose you mean to sow your clover alone or with oats. In either event on sandy land we would use an application of acid phosphate and potash, say 1,800 pounds of acid phosphate and 200 pounds of muriate of potash to make a ton, and use 300 pounds of this per acre.

Timothy Seed. — Replying to your Tennessee correspondent at Bristol. Last year I threshed a carload of timothy (about 600 bushels) from 90 acres, or about 6½ bushels per acre. This was the second crop from the seed. The year before it made 7 bushels to the acre. One year I threshed seed that made 12 bushels per acre. We get the heaviest yields the first and second years; after that the yield falls off a little every year. By cutting high with a binder most of the stalk is left on the ground. By turning this heavy stubble under every two years after taking off a crop of seed, a lot of humus is formed, making heavier crops in the years following, especially if not pastured. We break the ground and prepare a good seed bed as for wheat and sow alone at the rate of a bushel of seed to five acres. It comes almost as quickly as wheat, and if not too dry, makes a good sod the same fall, and a crop of seed the next year. At present prices of seed it pays quite well. It costs twenty cents a bushel to thresh it, and the hay makes pretty fair feed, if not allowed to stand too long before threshing. We thresh it on a wheat separator with an end-shake movement. Riddles for timothy are used, which leave the seed pretty clean. L. A. STOCKWELL.

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MUTILATED PAGE

Live Stock and Dairy.

A Great Combination.

While we keep this department up-to-date on stock and dairy matters, we know that many of our readers would like, in addition, an exclusively stock paper. Among them we regard The Breeder's Gazette, of Chicago, the leading one. We have made arrangements by which we can send the P. F. and The Breeder's Gazette both one year for only $1.90.

Stock Queries.

Cottonseed Meal. — "Who shall decide when doctors disagree?" Mr. Terry has repeatedly warned your readers, in the last few months, that it was dangerous to feed dairy cows more than two pounds per day of cottonseed meal. Now, in the issue of February 14th, Mr. H. Stewart, as the result of many years experience, advises feeding four pounds per day. Who is right in this matter?

West Plains, Mo. G. W. P. DINSMORE.

(Reply by H. Stewart.)

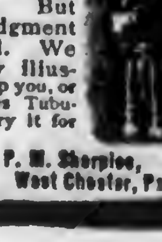
There is no disagreement in this matter between myself and Mr. Terry, whose judgment and conservative wisdom I have every confidence in. Mr. Terry, I am sure, will not sustain any precise rule that no man should in any case feed any more than two pounds a day of cottonseed meal. Cows differ, and I have always, in whatever I may have said, or may say, advised all concerned to go ahead slowly in this respect, and test by experience, the truth of every matter. But the writer of the letter makes a mistake in saying that I advised any reader to feed as I have been doing, and as I described. I simply said what I am feeding in my dairy. I think our good and fully trustworthy friend, Mr. Terry, would never advise me or any other feeder of cows to stick to a ration of one pound of cottonseed meal at each feed twice a day, when the cows will pay two hundred per cent. profit, and some twice as much, and enjoy the best of health and comfort on twice as much. I am sure our friend Mr. Terry would say to you, and every-one else concerned, that if anyone finds more than one pound of the cottonseed meal is consumed with profit every way, including safety to the cows, that he will say give it to your cows. And at the same time I am free to say that two pounds of this concentrated feed is quite sufficient as a day's ration for ordinary cows, to begin with. And I think he will quite justify me in my advice to all concerned to feed two pounds at a feed twice a day, as soon as the cows have been educated up to that point, and this, I think, is an easy thing to be done.

[I have fed a good deal of cottonseed meal, and my experience is that while some cows can safely eat twice as much as part of a ration made up of other good feeds, that the increase in any case will be a damage to the product either of beef or butter. Too much cottonseed meal, while the cows may stand it, will result in white, crumbly butter, little better than oleo, and beef that I cannot get past my nose with comfort, as it is stronger than old buck mutton. Two pounds daily can be safely and profitably fed to cows if the best product is wanted. Some cows may live and thrive on more, but the product will suffer.—ED.]

Feeding Calves. — J. W. Furman, Stonington, Pa. — "Please tell me the best grain to feed veal calves on with separated milk. Butter is worth more to me than the calves." If our friend has read the discussion on feeding calves in the issue of March 7th he has about as good an answer as we can give him. We will add that Blatchford's Calf Meal is an excellent food. You cannot expect to fatten a calf well on wheat middlings. The ration is too narrow, and needs some corn meal added to fatten well. The discussion in the Pool was in reference to raising calves without milk, but when you have the separator milk there is an advantage, and the ideas suggested in the Pool are as good as can be offered. Look up the paper and study the letters in the Pool. We just note that your letter is dated Jan. 5, 1902. Where it has been all this time we cannot imagine.—ED.

Baby Beef. — "Johnson." — "What prognostication could be safely warranted for one in the fall buying about 30 head of spring calves, to be made by the following spring into baby beef, which, as per June bulletin of the Kansas Experiment Station, is the best paying beef raising—all the fodder and grain for same to be bought in market, viz., shredded stalks, baled Western hay, corn, bran, etc., with view of doing this for making manure. A Southern Pennsylvania farmer once said to me that in feeding beef stock he always got a good price for his grain and fodder. What would be the chances of getting out of such an operation with no, or but little, loss, looking upon this as a manure factory 'annex,' the manure to be used on tobacco and asparagus, which are specialties? If there would be any loss in doing this, not too great, it would take the place of what another might pay out for fertilizers. Manure I have the fullest confidence in; fertilizers I believe in only from hearsay—have never seen any good results from what little I have used myself. The regular crops on the farm go to feed the stock out of which money is made." While the demand for baby beef is great, and the price for animals of this class, when well finished, very satisfactory indeed, the market still desires animals weighing about 1,200 pounds. It would not be possible to take spring calves and make them weigh this within the year on a profitable basis. While young animals gain most rapidly and make the best quality, as well as the cheapest beef when fed uniformly from the date of birth, it takes some time to get them to the right weight. It would be better, therefore, to purchase yearling calves about the first of November for the proposed winter feeding. If these animals can be bought for 3½ or 4 cents a pound, or even a higher price may be paid if there is a probability of selling them for one cent or more per pound than they cost, there is no reason why a group of calves may not be made into baby beef by the following spring under the conditions suggested in the letter. To do this the feeding should commence about the first of November and continue for at least four or five, and possibly six months. There is not much chance to make very large profits where one buys all the feed, but still with cattle of ordinary quality at the Tennessee Station, and much older than the ones mentioned, it has been found that all the grain fed could be purchased and the full market price allowed for the roughness fed and still a fair profit made, with the manure to boot. As the manure from cattle of this class, fed on cottonseed meal and corn meal with silage, is worth a good deal, between $10 and $15 per head for the feeding period, the manure obtained alone provides a handsome profit and should stimulate every farmer to make greater efforts to feed beef cattle or any other class of domestic animals that will make him plenty of manure, which is without doubt the best and cheapest fertilizer that any person can have. Many farmers fail to appreciate the value of animals as manure producers, and unless they feel they are making a large cash profit from the foods fed, they regard the business as stale and unprofitable. That is where they make a serious mistake, for without animal manures they cannot keep up the fertility of their land unless they purchase commercial fertilizer, which costs them a good deal more in proportion to plant food contained and does not add any humus to their soil, which is, after all, one of the great essential elements of fertility. If our correspondent could erect a silo, or possibly he has plenty of this foodstuff on hand, he would find it infinitely better to feed than shredded stover and baled hay. Sixteen head of cattle have been on experiment at the Tennessee Station for the last 100 days on silage, cottonseed meal and corn meal and have made a gain of over 2.4 pounds per head per day. The cattle on shredded stover and hay have not done nearly so well. Every farmer who intends to feed stock should have a good silo. It is one of the cheapest and best investments he can make.

ANDREW M. SOULE.
Tennessee Experiment Station.



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VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 1016 Davis St., Evanston, Ill., who has editorial charge of this department. All inquiries requiring answer by mail must be accompanied by a fee of $1 each.

Chronic Sore.—I will come to you again about my colt that got cut between fetlock and gambrel joints on barbed wire last fall. It has grown out and left a bunch that will not heal. What I want to know is how to get the bunch off and healed. It is swollen badly from cut down. SAM. STEPHENS.

Winside, Neb.

If you failed to get an answer to a former inquiry it was because you failed to give your name and address. No attention will be paid here to inquiries to which name and address of subscriber are not attached. In sores such as you describe we sometimes find foreign bodies, such as broken or diseased bone, slivers, dirt, etc., which have to be removed before healing will take place. It will be necessary to cleanse the part perfectly by poulticing a few times with hot flaxseed meal. Then cast the colt and ascertain by probing and scraping whether any foreign body is present. If found, such matters must be removed. We generally remove such growths during this operation, afterwards dressing the wound with oakum saturated with tincture of iron or other styptic to stop bleeding. When this is removed in 24 hours, the wound may generally be healed promptly by frequent cleansing and then wetting several times daily with a solution of one ounce of sugar of lead and six drachms of sulphate of zinc in pint of water. Animal must be kept from biting part or it will not heal.

Sidebone.—Riding horse 8 years old began to get lame in left foreleg three months ago. Shortly afterward I found it caused by a small swelling where the hoof united with the hair, on the right side of the left forefoot. He is lame some all the time, and swelling is now half as large as a walnut, and hard. W. C. HART.

Beverly, W. Va.

From your description we conclude that a sidebone or ossification of the lateral cartilage is forming and this is the cause of the lameness. Sidebones are most common in heavy draft horses, but we meet with them occasionally in saddlers or drivers subjected to much concussion of the feet upon hard roads.

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Mild cases, not chronic, are often cured by one or two bottles. At all druggists.

Announcement.

We take this medium to acquaint the farmers and breeders of domesticated animals that, owing to the enormous sale our Veterinary Obstetrical Compendium, (written by Wales E. VanAme) has had from new customers, the 50,000 copies will not nearly supply the demand of our old trade.

Therefore, we have concluded to issue another edition of 100,000 copies, through the earnest requests of hundreds of our regular customers who neglected to order a copy early enough to benefit in securing one from the first edition.

We sincerely trust all of our old customers will avail themselves of this extra edition, as the price will absolutely be $3.50 per copy as soon as the second edition is all distributed. Send in your order at once if you desire a copy of the Veterinary Obstetrical Compendium. All money promptly returned to the sender if order comes in too late. Respectfully yours,

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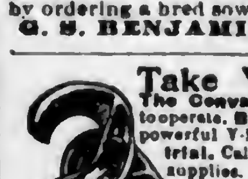

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Is time tried, and the recognized standard by all veteran horsemen; quick and scientific in its action, and marvelously efficient.
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Treatment should consist of retiring the animal from all work for two months, during which time a cold, wet swab of felt should be kept upon the hoof-head of affected foot for two weeks, then clip hair from coronet and blister thoroughly with cerate of cantharides, one ounce; biniodide of mercury, one drachm; mix. Rub it in for 15 minutes; wash blister off in 48 hours, then apply lard daily. It will be necessary to tie the horse up short so he cannot lie down or bite part while blister is acting. Shorten toe and put on a rolling motion shoe having heel calkins but no toe calkin. In a week after blistering let him have his freedom in a roomy box stall. Repeat blistering in a month if still lame.

Lameness.—Aged mare stiff and sore in legs and joints for about three years; is worse after standing. Lies down a good deal. Lame at times in front feet. Blacksmith says she has contracted hoofs, which are brittle. Quite good flesh, but not very easy to keep fat. A. S. HELMICK.
Cherry Creek, N. Y.

Mare was probably foundered, and it is too late to benefit her much by treatment. When not at work let her stand upon a wet clay stall floor. Put her in well bedded box stall at night. Clip hair from hoof-heads and blister twice a month with cerate of cantharides. This will cause a growth of new horn and possibly remove lameness.

Spasmodic Cough.—Mare 7 years old I think caught cold and has dry, hacking cough. Strangles, chokes and opens her mouth and coughs up some food; lies down, rolls over, sweats and seems in great pain. Is stiff in forelegs and her muscles seem to be contracted and drawn up all over her when she has these spells of coughing.
Gregory, Cal. L. C. CREEKS.

It is evident that mare about strangles when coughing, and we fear that medicine will have little effect, as the cause is doubtless the presence of a polypus in the back part of nostrils or throat. This polypus or tumor has a narrow neck and sometimes falls into the throat and so causes the coughing in an attempt to get it back into its usual place out of the throat. An operation would be the only chance of help in such a case, but it is a difficult matter to locate tumor and remove it with ecraseur or other suitable instrument. If you have no veterinarian who could handle the case, try the effects of glyco-heroin, as it is the best medicine we know of in chronic cough from throat trouble. The stiffness is not easily understood unless you mean that it is only present during the coughing spells; in that case it would disappear could you cure the cause of the cough. If this is not the case and the stiffness is present when the mare is not coughing then it may be that she has been foundered at some time in her life and it might help her to clip the hair from coronets of forefeet and blister twice a month with cerate of cantharides as so often advised for chronic founder.

Obstructed Milk Duct.—1. One of the teats of my cow spatters badly in milking. How can this be remedied? 2. Is it better to castrate a yearling bull intended for beef next season, though he will not be used for breeding? G. W. GUERNSEY.
East Cobleskill, N. Y.

1. Examination will show you that there is a small wart-like tumor in the milk duct at or near the end of the teat. It is an easy matter to remedy the condition you describe by merely slitting the inside of the duct in four different directions by means of a teat bistoury or slitter, which you can procure of any maker of veterinary instruments, or through your druggist. The instrument is hidden in a large milking tube. Insert it until milk flows, then spring the hidden knife and withdraw so that knife cuts against inside of teat. It is best to hold the teat tightly against the knife so that a deep enough cut will be made. Do this in four different directions and it will become immediately possible to milk the cow. During the first two days after the operation either milk a little often to keep the wounds open, or insert a lead dilator between the milkings. Great care must be taken to have seat of operation, instruments and hands perfectly clean and disinfected when the operation is performed, else the udder may become the seat of inflammation. 2. By all means castrate the young bull. The operation should be performed before fly-time and on green grass. He will do better when castrated and the beef will sell better or prove better quality and of better flavor if intended for home consumption. Buyers always discriminate against bull beef or beef from "stags," by which term they mean bulls castrated late in life. The large scrotum tells the buyer that the bull was castrated late and he usually makes this a pretext for docking the price.

Indigestion.—Horse has spells of sickness at times. I use him for farm work and driving. When ailing he seems drowsy. Has difficulty in passing water, which is of a yellow color; eats but little and will not drink. Seems to lose the use of his legs and so weak he will sometimes fall.
Hazel Green, Wis. CLYDE NECOLLINS.

All of the symptoms described point to indigestion and stomach staggers. While the food you give may be good in quality there is something wrong in manner of giving it and this should be corrected. Such horses should have roomy box stall in stable and be worked or exercised every day, wet or shine. A few days idleness on usual rations induces the trouble. Always allow drinking water before but not soon after feeding. Give soft rather than hard drinking water. Feed no hay during the day when doing hard work. Allow a bran mash twice a week. Avoid condition powders or stock foods and do not give nitre, saltpetre or rosin. When attacked give a pint and a half of raw linseed oil and withhold food. Allow lump of rock salt to lick at will. See that barn is well ventilated. Clip him if coat is long and rough. Write again later if necessary.

Prolapsed Vagina.—Tell us what to do for a mare that has prolapsus of the uterus when she is driven hard. When she had her colt the uterus came entirely out at one time. She has had four colts. She is not with colt now, but she is very poor. Her teeth are all right: she eats and drinks well. She shows no symptoms of worms. We think her tongue is a little whiter than normal. No not think she has fever as she does not drink excessively. The mare is 11 years old. SUBSCRIBER.
Jeffersonville, Ill.

We suspect that there is prolapse of the vagina and not of the womb, although at time of parturition womb was everted. Little can be done for this relaxed condition other than keeping the mare in good bodily health by the use of nourishing foods, such as oats and bran along with good hay and keeping the bowels in proper working order. It might be well to give her, internally, twice daily an ounce of a mixture of equal parts of fluid extract of ergot and hydrastis canadensis in a little water, with syringe, in mouth. Also inject into vagina once daily a couple of quarts of warm water in which dissolve two drachms of tannic acid. If this causes her to strain and evert the vagina reduce strength of solution to one drachm to two quarts. It may be that she is suffering from leucorrhoea, and it is on that basis that the above treatment is prescribed.

Lameness.—Mule 4 years old went lame in left hind leg six weeks ago; now holds leg up under body and is swollen in stifle joint and down to hock. That side from hip down has perished a very considerable. Foot is all right. W. L. HEDGECOCK.
Wilton, Ark.

In all probability the mule in getting up or at another time had a fall and fractured part of pelvic bone so that time alone will effect a cure. Similar symptoms in some respects might follow sciatic rheumatism of embolism, but we think a fracture most probable, and would advise you to turn mule out. It may take six months, but at end of that time such cases usually recover.

Periodic Ophthalmia.—I have a mare 8 years old. Left eye becomes swollen periodically; generally goes away in three or four days. This time it has been swollen a week or more. There is no discharge except little water. I don't know that it has been injured in any way. MYERS CHITTENDEN.
Cleveland, Tenn.

Mare is afflicted with periodic opthalmia, which is incurable and will cause blindness of one or both eyes after a number of successive attacks. Such animals should not be used for breeding purposes, as a predisposition to the disease is likely to be transmitted to the progeny. Keep her in a darkened stable and during time of attack, unless in foal, give her one drachm of iodide of potash three times daily in water. At such times keep eye covered with a cloth to be kept wet with a solution of one drachm of sulphate of zinc and half a drachm of fluid extract of belladonna leaves in a quart of soft water. When inflammation subsides and a scum is seen on eyeball, paint it with a solution of two grains of nitrate of silver in an ounce of distilled water once daily for ten days.

Eczema.—Ringworm.—A yearling steer is in good order but there is something the matter with him. There are lumps around the sheath, under belly, and his bag is 3 or 4 inches long and kind of scabby. What is it or what caused it and what shall I do for him? 2. Two other yearlings have lost the hair around the eyes and the skin is cracked, and sometimes bleeds a little. What ails them? W. R. GAYLORD.
Auburn, Cal.

1. There is an eczematous condition of the skin which may be cured by cleansing with sheep dip solution, such as a solution of Chloro-Naptholeum. Also examine scrotum and see if he has been properly castrated. Sometimes a tumor forms on cords left too long and adherent to the scrotum. Where this is found to be the case the cord must be dissected clear of its attachments and then severed higher up. 2. The calves are affected with ringworm. Cleanse parts with soap and hot water, then scrape with blunt knife to remove scabs and when ready to bleed rub in a little iodine ointment. Repeat treatment as required. Clean up stables and apply whitewash freely.

Keratitis.—About two months ago something seemed to be wrong with my cow's eyes. When I turned her out to water her eyes seemed to be nearly bursting from the sockets; a growth of a bright red color, about the size of a lead pencil, extended entirely around the eyeballs, and both burst after a time. W. S. BOWLES.
Middlefield, O.

Your cow was attacked by an acute ophthalmia, which soon took on the form of keratitis, which led to bursting of the eyeballs and loss of sight. It is evident that so-called pink eye was not present or the other cows would have caught it, as the disease is contagious. We do not believe that the eyes could have been saved, and it is improbable that you will have another case. Should you have any similar disease appear write us at once and we shall be pleased to give you advice as to treatment. On general principles, it is a very poor plan to shut up cows in a dark, hot stable during winter time. Cows to remain healthy should have plenty of ventilation and the temperature in the barn should not exceed [illegible] Far. When cow was attacked she should have had a large dose of epsom salts (one and a half pounds) in two quarts of warm water, to be followed by drachm doses of iodide of potash three or four times daily. Eyes should have been covered with a soft cloth to be kept continuously wet with a solution of one drachm of sulphate of zinc, half drachm of fluid extract of belladonna leaves and 15 grains of sulphate of morphia in a quart of soft water. A solution of three grains of nitrate of silver is to be used in an ounce of distilled water twice daily to paint eyes after the acute symptoms have subsided. Such cases are rather unusual.

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BECAUSE.—The De Laval makers have ever been first and foremost in the manufacture of Cream Separators throughout the world—have ever led where others follow—their factories being among the finest machine shops in the world and their knowledge of Cream Separators far greater and more thorough than that of any comparatively inexperienced would-be competitor.

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WINNIPEG

Worms.—I have a mare, used as a draft horse, which has a very depraved appetite; she also passes a large number of thread-like worms from 2 to 4 inches in length. Her feed consists of timothy hay and six quarts of cracked corn and oats daily.
Bristol, N. H. C. S. COLLINS.

Change hay if it comes from low, wet land. Feed oats and bran without the corn. If not in foal give her, on empty stomach, one pint of raw linseed oil and one ounce of turpentine well shaken together and repeat in ten days. In feed night and morning, mix one drachm of dried sulphate of iron and a tablespoonful of coarse brown sugar. Keep this powder up for a week then skip ten days and repeat. Better clip her at once if her coat is long and harsh. Also have teeth put in order if oats come through her in a whole condition.

Dysentery.—I have a young horse, four years old, that has been loose in his bowels ever since he was a colt. I feed him shredded corn fodder and corn; have changed his feed and got medicine from veterinary surgeon, but nothing does any good. C. G. N.
Ringgold, Md.

If the colt is of the long, loose-coupled conformation called "washy" by horsemen, it is improbable that he will ever be normal in his bowels when driven a distance. Give him a pint of raw linseed oil in which mix half an ounce of laudanum and half drachm of powdered sulphate of copper. Next day give him, every six hours, half a drachm of powdered sulphate of copper and two drachms each of ground ginger root and prepared chalk with 5 drops of beechwood creosote in half a pint of flour gruel. Mix browned wheat flour freely with his other food and do not feed corn. Better feed him crushed oats, bran and dried blood meal, adding a little molasses water or sugar to make him take it. See that drinking water is pure and that all food used is of first-class quality.

Lice.—Please give me a good cure for lice on horses. E. W. CLINE.
New Metamoras, Ohio.

Boil down four ounces of stavesacre seeds in a quart of water until one pint remains, then add a pint of water and use this tea to apply frequently to parts infested by lice. It should be well scrubbed in. Flowers of sulphur should also be freely applied along spine. It is best to clip horse when badly infested by lice. Also clean up stables; then use whitewash.

Shedding the Coat. — Will you please give a remedy to make a horse shed.
Federalsburg, Md. I. F. S.

We have tried nothing better than the feeding of dried blood meal. The feeding of carrots is also effective but if these cannot be had then substitute bran mashes containing a little flaxseed meal. Blanket horse heavily then ride him until he sweats. This is a good plan of lifting the coat quickly when it commences to shed. Poor food, badly ventilated stables and water excessively hard from presence of lime all tend to delay shedding.

Pustular Eczema. — Samples of pork were sent were sent to your office Feb. 17th, with descriptive letter; wish I could send another sample, but I did not like the looks of hide, and so removed it before salting. (We have not used any of it; have been waiting for your reply.) As near as I can describe it, the hide had a rough appearance upon outside, and as you would cut in you would find a white, cheesey substance in shape resembling a small maggot, from one-sixteenth to one-quarter of an inch in length, and from one-sixteenth to one-thirty-second in diameter. The head and chops were the worst, but there were some scattered all over the body. SUB.
Wysox.

As the disease is apparently pustular eczema of a chronic type there should be no objection to using the meat after removal of skin and proper curing. We did not receive samples of meat referred to, but the description you give makes the disease sufficiently clear.

Periodic Ophthalmia. — I would like you to advise me what to do for my horse's eyes. About four months ago one eye began to run very badly; there was also a small [illegible]ount of gray matter in it. He kept it closed and it looked very bad. There [illegible]ale bluish film over it, and it does not present. Two or three days ago the other eye (which had been all right) became affected the same way. The eye lashes are gummed together and water runs the whole length of his face; the eye is nearly closed. The horse seems in good health otherwise. Feed consists of corn meal, oats and bran, with good hay and oat straw. Our local horse doctor examined the eyes and gave it some long name and said that a case had never been cured. Could you inform me what the matter is and advise me what to do, if there is any help? As he is a valuable animal, I do not like him to lose his eyesight.
Susquehanna, Pa. J. EVERETT SMITH.

viz.,
hay, co
this for
Pennsylva
that in feed

Your horse had an attack of periodic ophthalmia in both eyes. The disease is commonly called "moon blindness," on account of its likelihood of returning once a month. It is incurable, and after successive attacks ends in blindness of one or both eyes. Attacks may be shortened and lessened in severity by the following treatment: Keep animal in darkened stable. See that ventilation is good and stable kept clean so as to prevent exhalations of noxious, irritating gases. When attacked cover eye with soft cloth to be kept wet with a solution of one drachm of sulphate of zinc and half drachm of fluid extract of belladonna leaves in a quart of soft water. Internally, unless in foal, give one drachm of iodide of potash three times daily in a little water, for three or four days, then drop two doses daily. When inflammation subsides paint eye once daily for ten days with a solution of two grains of nitrate of silver in an ounce of distilled water. Use this solution on eye of your horse that is now cloudy. During an attack feed no grain. Soft bran mashes, roots, green grass or a little good hay may be given. Mares or stallions affected with this disease should not be used for breeding purposes, as the disease, or a tendency to it, is transmitted to the progeny. At the outset of an attack, when eye is opaque an operation may be performed by a skillful veterinarian, which will often relieve for a long time if not wholly cure. It consists in tapping the cornea of the eye and removing its contents.

Weakness.—I had a cow that I found several days ago, and she could not get up. I put her in the barn and she got up after three or four hours, but it was about ten days before she got well. Now I have two more the same way. They look all right and eat well, but seem weak in hind parts. When they do get onto their feet they travel all right. A. E. SHEARD.
Calkins, Pa.

There is nothing in your description to indicate cause of weakness described, but it will doubtless be found in your manner of feeding. See to it that the cows are generously fed upon nutritious grains and meals in addition to first-class hay and fodder. It is not uncommon to have such weakness in pregnant cows fed frosted or spoiled hay and fodder or a ration of fodder without grain. It is in such cases that we most commonly get trouble from abortion and so-called "calf cholera."

Abortion. — In my inquiry last month, asking if there was any treatment for aborted cows whereby we might reasonably expect them to be exempt from aborting again, I neglected to inform you that chloride of zinc, also carbolic acid were used at the time of abortion, according to directions you have given others in the P. F., with the other precautions, but whether that would be sufficient or whether to do something more before breeding again I do not know. I have secured a young, unused male. I have some good, young cows which I would like to keep if I would not be likely to have that trouble with them another year. Will I need to disinfect any more? Cows run to pasture in summer, but are put in barn at milking time. Keep bull up all the time. As I told you last season was extremely wet; could that have anything to do with the trouble?
S. Dayton, N. Y. CLARK W. OAKES.

We cannot say anything on this subject that we have not said over and over again in this department of the P. F., so that if you keep the back numbers it would be well to read other answers on the subject. It requires about a year and a half to rid a herd of contagious abortion, and during that time each pregnant cow must have the carbolic treatment right along from time of conception until birth of calf or end of at least eighth month of pregnancy. Also the vulva and adjacent parts of each pregnant cow must be sponged, sprayed or washed with the zinc solution before and after each service; the pregnant cows must be kept by themselves; no cow must be allowed to calve where there are other pregnant cows; aborted calves, afterbirths and all soiled litter must be immediately burned after accident has happened; disinfectants must be freely used in stables and proprietary medicines of all sorts should not be used. Cows at pasture may have their carbolic acid given to them daily in salt. Disease is due to a germ, and not to the wet weather.

Lameness.—I have a sow that has been lame for three weeks. At first she seemed to be weak in hips, but now it seems to be all in her right hind leg. There is no swelling. She eats heartily, but lost in flesh the first two weeks; is mending some now. Her feed has been principally corn. Has suckled six pigs; pigs were six weeks old when she got lame. D. M. ALLRED.
Central Falls, N. C.

We have seen a good many cases of what is called "parturient eclampsia" in suckling animals, and this may be one of them, as the symptoms are lameness or paralysis, usually accompanied by a good deal of nervousness and twitching. Corn is a poor ration for a sow nursing pigs. She should have had slop of milk, middlings, bran and flaxseed meal or similar food. At present stage would stop feeding corn and feed as suggested. Rub the muscles of affected limb and hip twice daily with soap liniment, using a good deal of friction. Internally give her five drops of fluid extract of nux vomica and 20 drops tincture of iron twice daily, in food. Do not mix the two medicines together. Increase to three doses of nux daily if she does not improve.

◆

Getting Eggs in Winter. — We were talking with Mr. Romaine, maker of the popular meat meal called "Boiled Beef and Bone," last week, and told him of the many anxious inquiries we had received as to why the hens were not laying this winter, whereupon he laughingly handed us a letter he had just received, and said: "That tells a different story." The letter was from a customer living in Roseland, N. C., ordering two more bags of "B. B. & B." to be shipped to him, and closed with these memorable lines: "I have one flock of fifty pullets that laid 1,096 eggs in the month of January; I do not want to be without 'B. B. & B.' Very respectfully, George E. Wells." This certainly does "tell a different story!" That almost 22 eggs per pullet in the mid-winter month is an eloquent testimonial as to the value of a good meat meal to make hens lay. Write D. W. Romaine, 124 Warren Street, New York, for a copy of his little book, "How to Make Hens Lay," and mention the P. F.

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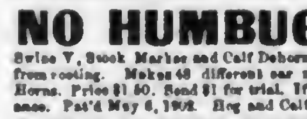

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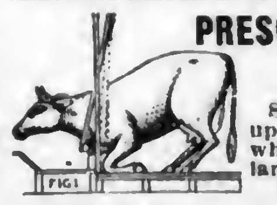

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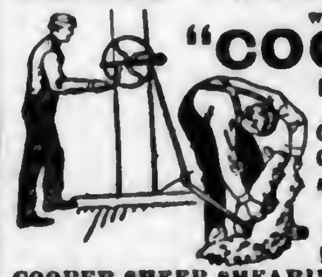

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THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

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P. O. Box 1317, Philadelphia.

Talks on Timely Topics.

New Lettuces. — Maule's catalogue offers the New Rosette lettuce. Of this, I find the following in my record book of last season: "New Rosette, an excellent heading sort of long standing." It is a first-class summer lettuce, and described as follows: "Rosette is of good size, a plant covering an area of 8 or 10 inches in diameter. The head is full and compact; pale green in color, almost yellow on top. The outer leaves are very much rounded in outline, with a few broad, coarse crimpings and not nearly so pale in color as the leaves which form the head. The seed is white. It is regular in shape, and the head forms quickly. It is slow to run to seed. It is not the largest lettuce on the market in spread, but in actual crop it outweighs many larger sorts." Another lettuce offered is the "Silver Anniversary," claimed to be a prize winner in size, table quality and heat-resisting ability. For earliest outdoor lettuce I still plant the Prize Head.

Winter Squashes. — The growing of Hubbard squashes still presents some mysteries to us. Sometimes we have no difficulty in growing a big crop, even in the sweet corn patch, where they are handled in same manner as common pumpkins; and then again we make a failure even in a separate patch where every imaginable care and attention is given. We cannot expect a maximum, or at least a very large, crop of Hubbard or other winter squashes, unless the soil is made very rich in available plant foods. Mr. Gregory, one of our highest authorities on squashes, says that ten cords of rich manure is the minimum applied per acre, and there are those who believe it more profitable to apply fifteen or twenty cords. If such application is made, it will be necessary to have the manure raked into the furrow ahead of the plow. Mr. Gregory, however, now puts a portion of the manure (probably fine) on top after plowing, working it in well by the use of modern improved harrows. His own practice in squash raising is to use half the equivalent of manure in fertilizers applied broadcast and harrowed in with the manure. Where hired hands plant the seed he has seen such poor results follow from an imperfect mixture of fertilizers with soil in the hills, that he has been led to plant without hill fertilizing, waiting until the young plants appear and then scattering a heaping large spoonful of nitrate of soda among them, scratching it lightly with the fingers and being careful not to drop any on the leaves. Mr. Gregory's practice of using a portion of the plant foods in fertilizers can well be recommended, unless the soil is extremely rich already, when I would use nothing else but a moderate quantity of chemical fertilizers. This hill manuring is often bad business, simply because many people just throw the fertilizer by the handful into a heap, thus possibly injuring the young and tender plants. I believe in broadcast manuring.

To protect the vines from the little striped rogues, Mr. Gregory recommends sprinkling the vines, as soon as they break ground, with finely ground plaster which has had a little Paris green mixed with it. After the third leaf has been well developed, there is usually but little to fear from these little marauders, he says. My experience is different. I have had whole plantings which were almost wholly untouched by bugs until the plants made preparations to "run," suddenly taken and entirely destroyed by these yellow-coated enemies, after that date, and, in fact, I have always had to continue the fight against the bugs until the plants are quite large. My remedy while the plants are small, is tobacco dust, or a mixture of it with bone meal, and later on, when the leaves have grown quite large. Bordeaux mixture with Paris green, sprayed on frequently and thoroughly. The large black, ill-smelling squash bug is most surely and most easily disposed of by hand picking and dropping into a pail containing a little kerosene.

The greatest mystery about Hubbards, however, is their difference in quality. Sometimes we grow them to cook dry and mealy, and then again, we have specimens, or a whole crop so watery and poor as to be wholly unfit for table use. I am unable to explain it; but shall try the plan of selecting the warmest, most sun-exposed spot for the crop, planting no other crop near it that would shade the ground, and using none except mineral manures, preferably in the form of wood ashes with a little superphosphate added.

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Some Garden Experience.

H. RAY MERCER.

In the line of lettuces I had Hanson, Iceberg, Philadelphia Butter and others. I prefer Hanson as an out-door lettuce to any I have tried, although Philadelphia Butter is a close second for its kind. In tomatoes I had Maule's Earliest, Success, Perfection, Red Bird and others. I consider Success all that its name implies, as a market and table sort, though it did not do so well for me as in 1901. Maule's Earliest I like because of its earliness, which is quite a factor in the market and home garden.

I have nothing to brag of in the line of sweet corn. The common boll worm gave us quite a bit of trouble among the early varieties, especially so on Kendal's Early Giant. Of cabbages I had Wakefield, Surehead and others, Surehead coming out ahead in main crop varieties. Last year was the first that I planted bush lima beans. I had been led to believe they were "no good" as compared to the pole varieties. I found that for me they were far superior. Planted side by side with the leading pole varieties they out-produced them by far. The pole varieties always produce too much vine with me, with fewer pods. I had Burpee's bush lima, and never saw anything quite so nice. In potatoes, I had Thoroughbred, and like them. While they are not so mealy when cooked as Freeman and others, they make up for it in productiveness. I consider them way ahead of Bliss's Triumph in every way. The last named produced, under the same conditions, much less for me than the former, and were but a few days earlier. Cucumbers and squashes were a failure because of the large gray bug.

Upton, W. Va.

◆

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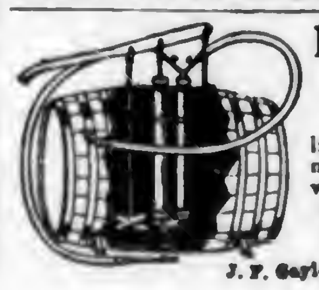

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Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

White Pine Seedlings.

An inquiry comes from Winchenden, Mass., for seeds or seedlings of white pine, the desire being to grow the trees looking forward to a timber supply in the future. Though most unusual, the crop of white pine seeds has been almost a total failure for two seasons. This season is worse than last, the crop being next to none, a small supply being reported but from one locality. Some years ago a correspondent of the P. F. reported good success in sowing some acres broadcast. Where land is not clean of brush, such a method may be the best possible, but the practice of old foresters to raise a bed of seedlings and then transplant them to where required would surely be the most satisfactory. More seeds would grow in this way and be safer from injuries than when sown where they would be under no oversight. The seeds should be sown in Spring, as early as possible. A bed can be prepared anywhere, smoothed off nicely, the seeds sown, and covered about a quarter of an inch; and in a few weeks the seedlings will appear. They will make but an inch or two of growth the first year, and must be allowed to have a second season's growth before being transplanted. In fact, they would not be too large if left for the third year. When ready for transplanting dig carefully to get all the roots, and be careful to keep the roots damp until reset. Set to the depth they had been before, and tramp the soil in firmly about them. The best season for the work of planting is early spring. This gives the seedlings a chance to recover from the check of transplanting before the heat of summer comes.

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Horticultural Queries.

Trimming Grape Vines.—I have, as I always thought, received some very good things from your paper. But I am free to admit that in the issue of Feb. 14th, on page 103, I received a staggering blow to my confidence in your paper. The question is asked when is the best time to trim grape vines, and is it best to trim them almost all away as some people do. Then the answer, "Prune your grape vines at once. Keep in mind that the fruit comes on wood made last year, then how to prune is better understood." Now, at least half of the country children know that the canes that grow this year produce the grapes. If a writer of your paper who writes to give peoeple advice as how to prune their grape vines is so ignorant of the plain truth and will mislead them thus, what will, and what have the other questions received? LEVI BOSLEY.

Glyndon, Md.

It is good of Mr. Bosley to call attention to what he considers an error, as facts are what are wanted. But there is nothing the matter with the advice I gave the correspondent he refers to. Mr. B. understands the terms, canes, shoots and wood in a different way from what I do, that is all. We both mean the same. Take, for instance, to illustrate, the sentence "Long canes made last year should be shortened, perhaps one-half, but remember this is the growth the fruit comes on." Well, isn't that right? From this last year's cane—or wood—the eyes will break and produce shoots which will bear the fruit. I do not think you and I disagree on how to trim grapes, it is only, as I have already said, the terms I used were not understood by you; and the advice given Mr. Palmer I will let stand. Criticisms are always welcome, and while not doubting your good intentions, do not be so ready in charging "ignorance" and "falsehood" concerning matters which are not plain to you, my good friend.

Grafting Wax.—In issue of Feb. 28th, in giving a grafting wax you say 2 pounds of tallow to one pound resin and one-half pound bees-wax. All experience shows that tallow should be least of all, say tallow 1, bees-wax 2, resin 4, or if linseed oil is used instead of tallow, only one-half as much.

Ashtabula, O. W. C. BAIRD.

It is certainly "up to me," as the modern expression goes, and I have to express my regrets for the error I made. The proportions are as this correspondent gives, and not as I had it. I should have been more careful. It is not clear from what this correspondent writes, whether he is disgusted with what he finds in the Horticultural Columns, or because he does not find there what he wants, but it appears to be the former. At any rate, if he has suggestions to offer, or criticisms to make, they will be welcomed, if written in a fair spirit.

Columbian Raspberry.—W. H. Wheeler, Greenleaf, Oregon, calling attention to the fact that the Columbian raspberry is a "cap" variety and not of the suckering kind, as has already been noted, says: "It yields enormously when cultivated and not allowed to suffer for water. Neglected, the crop is light. It is good dried, and dries easily, not carrying much water when fresh. I prefer other varieties for eating fresh. It is sweeter than many."

◆

Horticultural Notes.

A Juneberry from the North Carolina mountains, called Amelanchier Rotundefolia, is one of the most prolific of all in the way of fruit bearing, besides being of a dwarf habit of growth.

The Chinese Wistaria has the handsomest flowers of all the tribe, but the native one, frutescens, is the best for shade; and its flowers come some weeks later than those of the other variety.

◆

"1847 Rogers Bros."—No other word, clause, sentence or mark means so much as this to the people who would own good silverware and be certain of the fact. Doubtless many of our readers have often wondered just what these words "1847 Rogers Bros." mean. They will recall having seen it on about every good piece of silverware they have ever seen, but still may not have known what it meant. It means simply that in the year 1847 the Rogers Bros. first made these knives, forks, spoons, etc. It means further, that their neatness and beauty of design, as well as their superior quality, immediately took firm hold upon the public, and that in all the fifty-six years since they have been recognized as the standards of excellence in this line. That is about all there is to it except all the years of hard and conscientious effort of the manufacturers to honestly maintain this enviable and honorable position. "1847 Rogers Bros." silverware is manufactured by the Meriden Brittania Co., of Meriden, Conn. We are proud to direct the attention of our readers to them. They publish a splendid little booklet showing all the newest and neatest designs in table silverware. Send and get a copy of the book from which to make your selections. You can then go to any reputable dealer anywhere and buy the goods at a reasonable price. They are for sale everywhere. Do not let the dealer substitute something else with the claim that it is just as good, for in truth experience has taught the public that nothing else is so good as the only and original "1847 Rogers Bros." The brand is put on each and every piece for your protection and is a positive guarantee of excellence. Write for the booklet today and be sure to mention the P. F.

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Manufacturing Co.,
Jackson, Mich., on page 248.

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Bargain Prices.
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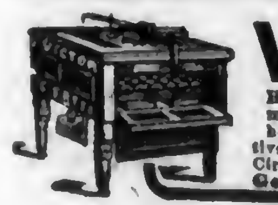

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POULTRY.

This department is under the editorial charge of A. F. Hunter. All letters, inquiries and requests should be addressed to him at the Practical Farmer office, P. O. Box 1317, Philadelphia.

A Still Better Profit.

FRANK A. IPE.

Last year I wrote you about my success with thirty-eight hens and making a clear profit of $1.32 per hen. Well, this year (1902) I have beaten that figure by considerable, making my hens clear me a clean profit above all expenses of $1.74 per hen. I have a pen of P. Rocks, one of Golden Wyandottes and one of a mixture of Leghorn and Wyandottes. For a long time I could see no difference in the three flocks, but after a while the Wyandotte-Leghorn cross got the best of the race and stayed with it, and came out ahead. I think there is a great deal in the feeding to make hens a success. I will say that I feed wheat for supper every night, and most anything from sand to sawdust for breakfast and dinner. Sometimes a hot bran mash, then again a feed of cut clover hay and shorts warm, plenty of green bone, cinders from the railroad engines and lots of green stuff like cabbage, carrots and turnips; but if I was cut down to a short ration, I would take clover and shorts for breakfast, green bone for dinner and wheat for supper, and make a good profit out of poultry. I have been poultry raising now for ten years, and now that I have got experience enough to go ahead, shall enlarge my poultry plant this year and try to make a good living out of the business.

Lewis Co., Wash.

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Poultry Queries.

Too Much Starch in the Ration.—Mrs. B. A. G., Lane, Idaho, writes: "Will you please advise me about my poultry? Four of our chickens have died after drooping around a few hours. We opened the last two. In the first one we found the liver swelled to about five times its natural size and one lobe of it was hard and yellow. In the other one the liver was not swollen so much, but was covered with yellow spots. Their feed for a flock of 75 is as follows: In the morning 8 quarts of mash, consisting of cooked vegetables, mostly turnips, bran and shorts; in the evening 5 quarts of wheat, with green vegetables to pick at through the day, and plenty of milk and fresh water to drink. They also have lime, charcoal, bone and crockery. Their coop is warm and well ventilated, and they have a scratching shed open on the south side. What is the matter with them and what shall I do if any more are sick? Also what is the reason they won't lay?" The hens died of diseased livers, due to over-feeding of starchy foods, feeding an ill-balanced ration. You feed too much vegetables, cooked and raw, and not sufficient protein in the shape of cut bone, meat meal or beef scraps. You overwork and overstimulate the liver by giving it too much starch to take care of, and do not give the egg organs the protein of which to make eggs. If you haven't a bone cutter and cannot get fresh bones, buy some butcher's trimmings, cook and chop them up for the fowls twice a week; or buy a bag of meat meal or beef scrap.

Indigestion Again. — N. F. Martz, Oakwood, Ohio, writes: "I have lost a fine B. P. Rock cock; he drooped for about two or three days and finally died. The contents of his crop had a very offensive smell; the liver was twice its normal size and very rotten to the touch. The contents of the gizzard and bowels were bright green in color. I feed bran mash, oats and corn; and give them fresh water every day." The enlarged and rotten liver looks like fatty degeneration of the liver, but there isn't enough fattening food in your ration to cause that. The bran mash, with no animal food, would cause a diseased condition of the liver through overworking that organ, and that ill-balanced ration caused the mischief. Feed some meat food, as cut fresh bone, "B. B. & B." or beef scraps. This question has been discussed over and over again in this column this winter. Fowls must have meat food in some form in winter, and should have green food also. You should add corn meal and wheat middlings to the mash, and either give cut clover (or alfalfa), or some kind of vegetable matter to "balance" ration.

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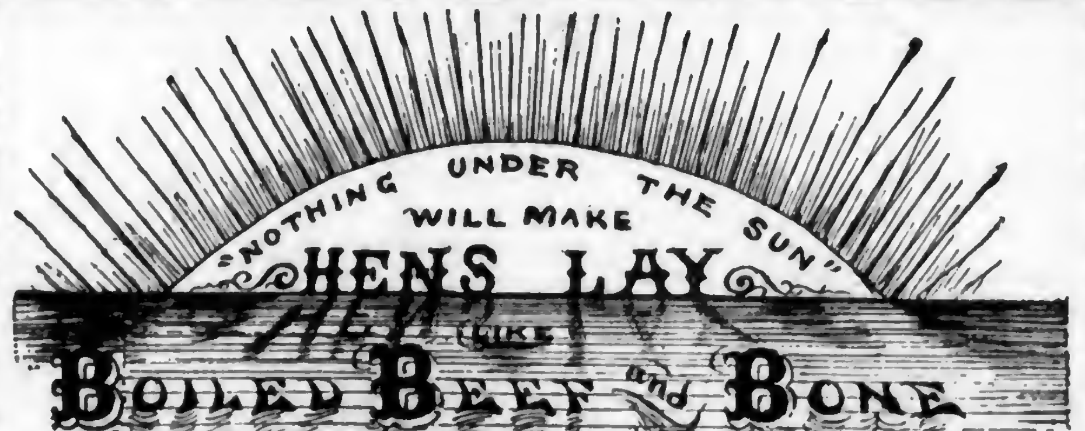

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PROF. W. F. MASSEY, Editor.

Philadelphia, April 4, 1903

We said years ago that when the city people found out the poor quality of the Ben Davis apple its beauty would no longer sell it, and it would become a drug on the market when better apples are abundant. That time has come already, and the Ben Davis, even of the kind they grow in the West, which are really better than the Eastern Ben Davis, are selling for about half the price of good apples. The way this apple has been planted in recent years will, when all the trees come into bearing, make a great glut in the market when the general crop is good. Better be shy of planting Ben Davis.

◆

The Country Gentleman in a reply to a North Carolina inquirer in regard to corn and fertilizers needed for it in North Carolina, says that in looking over the Census Reports it is struck with the fact that the leading agricultural States in the South pay out vast sums for commercial fertilizers, while none of them find rank near the head when total value of crops is considered. The editor remarks that it would seem evident that too little attention is paid to maintaining and increasing the productivity of the soil by barnyard manure, cover and green manure crops, and that the beneficial effects of humus are not fully realized. According to these census figures the States of Georgia, South Carolina, North Carolina and Virginia spent over $18,000,000 for fertilizers, and since the census figures were taken there is no doubt that the amount spent in this way in these States has run up to $25,000,000 in a single season. And yet there are States north of these, where nowhere near this amount of money is spent for fertilizers, but which show larger average crops and greater total value of crops. The Country Gentleman is right in saying that there is too little attention paid to the keeping up and increasing the productivity of the land. The great fault in Southern agriculture is the one-crop system and the dependence on commercial fertilizers to make the crop. Instead of systematic farming the Southern farmers have gotten into the habit of gambling on the chances of a crop through the aid of fertilizers. The first question asked when information is wanted about any crop is what sort of fertilizer and how much per acre. Bulletin after bulletin treating of the fertilizer needs of crops has been issued by the Stations, till the farmers have come to the conclusion that for every crop sown or planted a special fertilizer formula is needed. When the farmers drive by our farm and see the finest piece of wheat between North Carolina and New York the first question asked is, "What kind of fertilizer did you put on that wheat?" and when we tell them that not an ounce of commercial fertilizer has been used on the land, they drive on very quietly and evidently think we are adepts at lying. We wish that every Southern farmer could fully realize the inherent fertility of the red clay uplands of the South and the results that can be attained on them by good farming and tillage, with less dependence on fertilizers. What the South needs is systematic farming with the cow at the bottom. Today there are too few cows, too few mares and too many mules in the South. Too much money spent for fertilizers and too little improved agriculture and stock raising, too many acres in cotton and too little cotton on the acres. Too much dependence on a single crop to pay for everything else, even to the mules that cultivate it. An excess of sterile animals and too few breeding ones. Fertilizer men rich, farmers poor, and yet they make the others rich.

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County Fairs.

There is a great deal of talk lately in regard to the improvement of the agricultural fairs, most of which seem to have degenerated into mere horse races There are always two ways to look at any question. From the point of view of the managers of the fairs it is necessary to have something to draw out a crowd to pay expenses. The fakirs and gamblers always pay handsomely for the privilege of fleecing the country people, and the managers want all the money they can get. So it requires some degree of firmness to withstand the temptation to put up a scandalous "Midway." The great expositions have set the example in this line and too often the fair managers give way to the pressure and take the vile money from those who demoralize the people. Then there is a great deal said about the horse racing. Go to a fair anywhere and note how everyone there gathers about the race track when the racing is going on. The managers are, of course, impressed with the notion that most of the people come there to see the races, and hence they feel that they must put up money enough to have good races by professional horsemen, and when the professionals get in there will always be more or less gambling and betting. Hence the fakirs carry off loads of money they have been allowed to steal from the public by various devices, and the jockeys get the larger part of the premium money, while the legitimate objects of an agricultural show are neglected or given trifles. The farm boys go to the fair and for months after they talk of the doings of the fast horses and who won and who lost money on the races, but they do not remember anything about the stock exhibited. In fact, the public does not go to a fair nowadays for agricultural improvement. It is regarded merely in the light of an outing and a place to meet friends and have a good time. And it is the thoughtless crowd and the vicious who bring money to the managers, and they are generally too anxious to pay expenses to look very closely into the morality of any part of the performance. The remedy, it seems to us, is to return to first principles and have an agricultural fair pure and simple. If you have no race course nor grand stand to erect and keep in order, a large part of the cost of the grounds may be saved. If you shut out the fakirs you lose what they would pay for the privilege, but you save the people what they would steal, You may not be able to get as big a crowd at a purely agricultural fair, but those who do not come will be the ones who would gain nothing from the exhibit. The real object that should engage the attention of the managers of a county fair should be the improvement of the agriculture of the county through a legitimate competition of the products of one farm with another. If there is nothing there but what has a bearing on the improvement of life on the farm you will get out the thoughtful people and the fair will have an influence for good rather than harm. Then instead of getting some politician to make a speech at the opening, to which no one listens, have specialists in the various departments to lecture on live stock, poultry and other matters, with the samples right at hand to illustrate the lectures. In this way the county fair might be made the leading institute of the year. As they are conducted at present the sooner they die out the better it will be for all concerned.

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Horticultural Ignorance.

We were about to notice the articles going through the press about the planting of eucalyptus trees, and are glad that Mr. Meehan has sat down on the nonsense. We have often alluded to the horticultural ignorance of the average newspaper man, and this eucalyptus talk is a good illustration. Instead of asking the opinion of experienced men, the papers publish a lot of wild talk about the immense value of the eucalyptus as a timber tree, and right away we get inquiries as to where the trees can be had and how to plant and treat them. We planted Eucalyptus Globulus, the blue gum tree of Australia, about thirty years ago. They made an enormous growth during the first summer. But that was the last of them. A cold of 20 degrees above zero will kill them to the ground, and 18 degrees will finish the roots. Hence there is little prospect for eucalyptus trees outside of Southern Florida and California. There are a great many varieties of the eucalyptus genus in Australia, and it is possible that there may be some which are more hardy than the blue gum, but we have not tried them. We had one, the leaves of which are as strongly lemon-scented as the lemon verbena, but did not test it out doors. There are trees of one genus that are hardy while others are tender. For instance, the Albizza Julibrissin, commonly known here as mimosa, is a member of an African genus and is perfectly hardy as far north as Northeastern Maryland, but Albizza Lebbeck, the great Egyptian avenue tree, is too tender to stand in North Carolina, and is about as tender as the eucalyptus. The so-called mimosa has become naturalized all through the South, and may be seen growing all along the railroad embankments in many places. Then there are other trees native to mild climates that prove very hardy, so that only an actual test can decide on their hardiness. The Japanese tree, the Paulownia Imperialis, is hardy in most parts of the country, and in the South has scattered into the woodlands like the mimosa. In a wood in view of where we write there are a number of these trees that are gay in spring with their purplish-blue flowers. Testing the hardiness of these things is the proper work of the Experiment Stations, and when the papers tell about some horticultural wonder, write to your Experiment Station for advice in regard to it. The average newspaper man knows as little about these things as a child, and prints anything that seems wonderful to him. They are now talking about sweet oranges that will stand zero. When we test one that will we will tell all about it. For the present, while we are in hearty sympathy with the efforts being made to grow more hardy orange trees we are not yet satisfied that there are any that will ripen edible fruit much north of Florida. We are also in sympathy with efforts to grow timber by planting waste land and steep mountain sides that never should have been cleared, but we have plenty of rapid growing trees that make valuable timber and are hardy, and there is no need for running after the trees that are tender or of doubtful hardiness.

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COMMERCIAL

Philadelphia, March 28, 1903.

WHEAT.—			
No. 2, red	77¼	@	77½
No. 2, Penna. and Del.	78¼	@	78½
CORN.—			
No. 2	47¾	@	48
No. 3	43¾	@	44
OATS.—			
No. 2, white clipped	43		
BUTTER.—			
Western creamery, extra	30	@	30½
Western creamery, firsts	28	@	29½
Western creamery, seconds	23	@	25
Ladle packed, choice	16		
Ladle packed, ordinary	14	@	15
CHEESE.—			
N. Y., f. c., small—			
Fall made, fancy	14¼	@	14½
Good to prime	13½	@	14
Fall made, fancy, large	14	@	14¼
Good to prime	13¼	@	13¾
State, part skims, prime	10	@	12
LIVE POULTRY.—			
Fowls, hens, per lb.	15		
Winter chickens, per lb.	16	@	20
DRESSED POULTRY.—			
Fresh killed fowls, choice	14		
Fresh killed fowls, average	12	@	13
Frozen do do	12	@	12½
Nearby chickens, average	14	@	15
EGGS.—			
Nearby fresh, at mark	14½		
Western, choice, at mark	14½		
Southern do do	14		
So. Western do do	14½		
Duck eggs	27	@	28
APPLES.—			
Baldwin, fancy, per bbl.	2.00	@	2.50
Ben Davis, fancy, per bbl.	2.00	@	2.50
Gano, fancy, per bbl.	2.50	@	3.00
Gilliflower, fancy, per bbl.	2.25	@	3.00
Greenings, fancy, per bbl.	1.50	@	2.50
Kings, fancy, per bbl.	2.50	@	3.00
Mixed winter, good	1.50	@	2.00
Northern Spy, fancy, bbl.	1.75	@	2.25
Spitzenberg, fancy, per bbl.	2.50	@	3.00
GREEN FRUITS.—			
Cranberries, Cape Cod, bbl.	12.00	@	14.00
Jersey, choice, per crate	3.00	@	4.00
Oranges, Cal., navels, boxes	1.50	@	2.25
do do seedlings	1.00	@	1.50
Strawberries Fla., per quart	15	@	40
VEGETABLES.—			
Asparagus, So., bunch	20	@	50
Beans, So., per ½-bbl. bas.	3.00	@	3.25
Beans, So., per crate	3.00	@	3.25
Cabbage, Danish, per ton	3.00	@	5.00
Cucumbers, Fla., per crate	4.00	@	5.00
Eggplant, Fla., per box	1.50	@	3.00
Lettuce, Fla., per ½-bbl. bas.	1.50	@	2.75
Lettuce, N. C. do do	1.50	@	2.75
Kale, So., per bbl.	35	@	50
Onions, yellow, per bu.	25		
Onions, Ohio Globe, per bbl.	75	@	1.00
Onions, N. Y. Gl. Danv., bbl.	50	@	75
Peas, So., per ½-bbl. basket	2.75	@	3.25
Spinach, So., per bbl.	1.00	@	1.50
Tomatoes, Florida, carrier	1.50	@	3.00
POTATOES.—			
White, Pa., per bu.	73	@	75
New York do do	68	@	70
Western do do	65	@	68
Jersey, sweets, per basket	50	@	60
BEANS AND PEAS.—			
Marrows, H. P., per bu.	2.25		
Scotch peas, per bu.	1.75	@	1.80
Green peas, per bu.	1.65	@	1.70
HAY AND STRAW.—			
Timothy, No. Pa., choice, l'g.	20.50	@	21.00
do Western	19.50	@	20.00
Timothy, mixed	14.00	@	16.50
Straw, straight rye	16.50	@	18.00
Wheat	10.50	@	12.00
Oat	9.50	@	11.00
FEED.—			
Bran, bulk, winter, per ton	20.50	@	21.00
Bran, sacked, spring	20.50	@	21.00
City mills, 100-lb. sacks, ton	20.00		
COTTON.—			
Middling upland, cwt.	10.15		

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle about steady.

Extra steers	5¼	@	5½
Good steers	4¾	@	5
Medium steers	4¼	@	4½
Common steers	4	@	4⅛

CALVES.—

Veal calves steady.

Extra calves	8	@	8½
Fair to good	6½	@	7½
Poor and common	5	@	6
Grassers	3	@	4

HOGS.—

Hogs steady.

Fat hogs, Pa., Del. & Md.	7	@	9½
Fat hogs, Western	9¾	@	10¼

SHEEP.—

Sheep and lambs steady for best grades.

Sheep, extra wethers	6½	@	6¾
Sheep, good	5¾	@	6¼
Sheep, medium	4½	@	5
Sheep, common	3	@	4
Lambs	4½	@	7¾

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The New York Market Review.

The markets for dairy products the past week have been most satisfactory, for prices have been good at this season of the year, and demand steady enough to absorb the rather large receipts. The demand for fancy winter made butter has been the greatest, but medium and low grades have their share of attention. Exporters take something like six to seven thousand packages a week, but mostly of low grade Western goods, especially of factory made butter. Storage fancy creamery is getting small in quantity, but the output of the creameries are slowly increasing. The early advent of spring is likely to make the new grass creamery earlier than usual and last June's creamery is being sold rapidly to dispose of surplus stock. Likewise the output of new cheese is increasing, while old fall made cheese is almost reduced to nothing. The winter made cheese is taken steadily by exporters, who buy some six or seven thousand boxes a week. Prices are firm for all cheese from 15c. down to 5c, for full skims.

The market for live poultry has been good this week, and good stock is not in too large supply. Fine turkeys are in small receipt, but fowls and roosters are moderate. Ducks and geese are irregular in quality and quantity, especially Southern. Live pigeons are scarce and wanted at 35 and 40c. per pair. Dressed poultry are in moderate supply, but most of the dry packed and iced stock coming in has been out of order. Most of the Western receipts of poultry are confined to fowls, and there is a good demand for these, especially the fine young birds. Ordinary old fowls are heavy. Fancy nearby broilers are scarce and firm; but roasting chickens are quiet and easy. Most of the pullets intended for roasting chickens have been too large and old, while the young roosters show poor packing and lack of plumpness. Demand for capons is light, and the supply is moderate. Nearby spring ducks are scarce and wanted at good prices. Tame squabs are plenty and lower. The warm weather has steadily increased the receipts of eggs, and prices have shown sharp declines. Speculative interests take up the surplus eggs whenever prices drop a cent or two, and these keep the market from any serious break.

The wheat market had its usual bull market the past week, and then broke from the highest prices by reports of favorable crops in Europe, and good shipments from Argentina. In spite of these rumors the undertone is strong, and the seaboard clearances large nearly every day. The open spring will enable the wheat movement by the lakes and canal to begin very soon, and this must have an effect upon seaboard prices. All winter wheat has been supported more or less by the unusual strength in corn. The exports of this grain have been almost phenomenally steady and continuous; but corn had its weakness and decline in the past week, and wheat could get no support from it. Interior receipts of corn increased immensely, while seaboard clearances dropped very suddenly. If Europe has all the American corn it needs a further decline will inevitably follow, but the impression is that our corn will continue to go abroad. As an illustration of this the foreign markets advance every time there is a serious depression here, and bidding is quite general for shipment. Oats have sold down in sympathy with wheat and corn, and the cash demand is very light. Barley is also dull both for feeding and malting. Market for domestic beans shows some improvement. White kidneys are scarce, and imported beans fill most of the orders. Red kidneys for export are dull, but medium and pea have advanced a little. Prices for hay advanced last week, and since then receipts have been running heavy. Poor hay is in excessive supply, but fancy is not. If present heavy receipts continue a few days prices will drop. Straw is also in heavy receipt and dragging at quotations. Potatoes, both domestic old and new, are firm and stronger under advices from the interior, and Southern growing sections. Even second crop of new Southern and Bermuda potatoes sell well. Apples continue to arrive freely, and the demand does not enlarge much. Prices remain about the same. The market for wool shows some slight improvements, but most of the sales are made up of odds and ends. Territory wools have had the largest demand, and they have sold at full quotations. The reports of the London wool auction sales continue to favor full or even higher prices here. Quite a little of the wool has been purchased for this market. The market for hops continues dull and unsatisfactory. G. E. W.

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New York, March 28, 1903.

WHEAT.—			
No. 2, red	78¾	@	79½
No. 1, Northern Duluth	85⅝	@	86½
CORN.—			
No. 2	57		
No. 2, white and yellow	53	@	54
OATS.—			
No. 2, white	42½		
No. 2, mixed	42		
HAY.—			
Prime, large bales, 100 lbs.	1.00	@	1.05
BUTTER.—			
Creamery, extra	29		
Creamery, firsts	27	@	28½
Creamery, seconds	23	@	26
State dairy, tubs, fancy	27		
Other grades	17	@	26
Western Imitation Creamery—			
Finest	20		
Fair to good	17	@	19
Lower grades	15	@	16
Packing stock, solid packed	12½	@	13½
Rolls, fresh, choice	15		
CHEESE.—			
State, f. c., small—			
Fall made, colored, fancy	15		
White, fancy	14¾		
Colored, choice	14½	@	14¾
White, choice	14¼	@	14½
Good to prime	13¾	@	14
State, f. c., large—			
Fall made, fancy, large	14½	@	14¾
White, fancy	14¼	@	14½
Colored, choice	14¼		
White, choice	14¼		
Good to prime	13	@	13¾
State, light skims—			
Fall made, choice	12¾	@	13
Winter made, choice	11½		
State, part skims, prime	10½	@	10¾
Fair to good	9½	@	10
Common	6	@	7
State, full skims	4½	@	5
LIVE POULTRY.—			
Fowls, selected, heavy, lb.	13		
Roosters, young, per lb.	12		
Turkeys, per lb.	15		
Ducks, average, per pair	70	@	1.00
Geese, average, per pair	1.25	@	1.62
Live pigeons, per pair	35	@	40
DRESSED POULTRY.—			
Turkeys, young hens & toms	13	@	16
Chickens, Phila. broilers, lb.	25	@	30
State & Penna. broilers, lb.	25		
Capons, average best, per lb.	16	@	19
Capons, Phila., fancy, per lb.	21	@	22
Fowls, West., scalded, per lb.	13	@	13½
Spring ducks, nearby, per lb.	13	@	13½
Squabs, large, white, doz.	2.50	@	2.75
Dark, per doz.	1.25	@	1.50
EGGS.—			
QUOTATIONS AT MARK.			
State and Pennsylvania—			
Fresh gathered, firsts	14		
Western—			
Fresh gathered, firsts	14		
Seconds	13½		
Ky., fresh gathered, firsts	14		
Tennessee and other Southern—			
Fresh gathered, firsts	13½		
Duck eggs, Baltimore, doz.	30		
Virginia and N. C., per doz.	28		
Far Southern, per doz.	21	@	24
GREEN FRUITS.—			
Oranges, Fla., brights, boxes	4.50	@	6.50
Oranges, Fla., russets, boxes	4.00	@	5.50
Pineapples, Fla., per crate	4.00	@	4.50
Tangerines, Cal., straps	2.50	@	5.00
VEGETABLES.—			
Asparagus—California—			
Green, prime, per doz.	3.00	@	6.00
White, prime, per doz.	3.00	@	5.00
Asparagus—Charleston—			
Extra prime, per doz.	5.00	@	7.00
Prime, per doz.	4.00	@	5.00
Short cut, per doz.	3.00	@	3.50
Culls, per doz.	2.00	@	2.75
Beets, per bbl. crate	1.25	@	2.00
Small crate	75	@	80
Old, per bbl.	75		
Carrots, old, per bag	75	@	1.00
New, per 100	2.00	@	3.50
Cabbage, carlots—			
Danish seed, per bbl.	60	@	65
Red, per bbl.	75	@	80
Cauliflower, Cal., per crate	2.50	@	4.00
Celery, Fla., original, case	1.00	@	1.75
Cal., original, per crate	4.50	@	4.75
Eggplants, Fla., per crate	1.75	@	2.25
Kale, per bbl.	10	@	25
Lettuce, So., ½-bbl. basket—			
Fancy	3.00	@	3.50
Fair to good	1.00	@	2.50
Peas, Fla., 1-3-bbl. basket	3.00	@	4.00
California, crate	50	@	1.00
Radishes, per 100 bunches	2.00	@	3.50
Spinach, bbl.	25	@	50
String beans—			
Fla. crates, fancy	3.00	@	3.25
Average	2.00	@	2.50
Tomatoes, Fla., fancy, car.	2.25	@	2.50
Fair to good, carrier	1.50	@	2.00
POTATOES.—			
Maine, per sack	1.75	@	2.25
Long Island, bulk, per bbl.	2.00	@	2.25
So., com. to prime, per bbl.	75	@	2.00

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WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.	
XX and above	30@32
X	28@29
Medium	30@32
Quarter blood	30@31
Common	26@28
UNWASHED (light and bright.)	
Fine	19@22
Medium	22@23
Quarter blood	22@23
Coarse	20@21
UNWASHED (dark colored.)	
Fine	16@17
Fine medium	17@19
Medium and quarter	19@20
Coarse	17@18
COMBING AND DELAINE FLEECES.	
Washed fine Delaine	32@33
Washed medium	30@32
Washed low	30@31
Washed coarse	27@28
Unwashed medium	23@24
Unwashed quarter blood	23@24
Braid	21@22

◆

$33.00 to the Pacific Coast
Via the Chicago & North-Western R'y from Chicago daily Feb. 15 to April 30. Low rates from Chicago to points in Colorado, Utah, Oregon, Washington and California. Pullman tourist sleeping cars to San Francisco, Los Angeles and Portland, daily, double berth only $6.00 Personally conducted excursions. Choice of routes. Address W. A. Cox, 601 Chestnut Street, Philadelphia, Pa.

ECHOES
—FROM—
THUNDER MOUNTAIN

In a recent advertisement, we asked the question, **DOES MINING PAY?**—Our answer is **YES**, most decidedly, if you have the **MINE and right kind of men to manage it.** That we have solved this problem of **MEN, MINE** and **MANAGEMENT** is best answered by the rapidity with which Subscriptions for Stock in our Mine, **THE PITTSBURG TUNNEL MINING CO.**, have been pouring in upon us since the advertisement above alluded to first appeared. We are no longer in the Experiment Stage, any more than are our celebrated and prosperous neighbors, the great **"DEWEY"** and **"SUNNYSIDE"** whose property immediately adjoins ours, and is in reality a continuation of the same mother lode or dyke. The **"DEWEY"** with only a 10-stamp mill is now turning out over $1,000.00 per day in gold bullion, and their stock (par value $1.00) is now held at $20.00 a share and **none for sale.** We have ordered a 60-Stamp Mill and hope to have it in operation by August 1, 1903. One of our directors has recently returned from New York, and says, the universal opinion there of Conservative Investors is, that **THUNDER MOUNTAIN** is destined to become the **GREATEST GOLD MINING CAMP the WORLD HAS EVER KNOWN**, far surpassing Cripple Creek, Leadville, or the Klondike in their palmy days, a veritable **MOUNTAIN OF GOLD**;—Where but a short time ago was almost an unexplored and unknown region, there are now numerous wagon roads being built from all directions to **ROOSEVELT**, present metropolis of the Camp and quite a busy mining town. We are also reliably informed that the Northern Pacific and Oregon Short Line Railroads have their Surveyors in the field with the intention of extending branch lines from the nearest terminal points. Wood for fuel and building, together with an unlimited water supply for power, have seemingly been furnished by nature for the economical handling of this vast region's mineral wealth. These are only a **few of the "Echoes."** Now, please **listen** to what **we have to say**: Not that we are anxious to pose in the light of prophets or pessimists, but the question most frequently asked to-day by all prudent people is, "*What can I invest in with absolute safety?*" All around us are the evidences of business activity, and yet, we know these good times cannot last indefinitely. The "hand-writing on the wall" will manifest itself sooner or later. Therefore, it is the duty of everyone to look carefully ahead and provide against the reaction which past experience teaches us invariably follows each era of prosperity.

The average investor may be skeptical—mining, we regret to admit having been brought into disrepute by a certain class of unscrupulous promoters of the "get-rich-quick" variety—men who know absolutely nothing about mining and care less for their unfortunate victims. This brings us back to the original question as to what is a safe investment. Some are content with savings banks. Others prefer real estate, but the fact of the matter is there are not many **"Sure Things"** open to the investor now-a-days. Savings banks yield but 3 per cent. Real estate has a way of fluctuating that makes it an expensive luxury in many instances. Oil has failed to keep the rosy promises it made a year ago. So that all summed up there is but **One Commodity** which commands a sale at the same uniform value—**Gold**—the government standing ready to purchase at par all that can be brought to it. Therefore, of all the various forms of investment offered, **Gold is the one which above all others should appeal to the average investor.**

There are many points to be considered, however, when a man buys stock in a gold mine. He must satisfy himself in the first place that it is a gold mine; that it is not over capitalized; that the title is perfect; that the location is such as will enable the management to work it at a profit, and this is exactly the kind of a straight forward honest proposition offered by

THE PITTSBURG TUNNEL MINING CO.

Who own ten full mining claims in the wonderful **THUNDER MOUNTAIN** Idaho district immediately adjoining the famous **"DEWEY"** and **"SUNNYSIDE"** mines previously referred to. Our stock which is non-assessable and non-forfeitable—is now being sold at **10c PER SHARE**, but

Will Positively Advance to 20c. April 15, 1903

and still further advance after the installation of our Stamp-Mill, until it reaches par, which it undoubtedly will, when all sales of stock will be withdrawn. **The time to invest in a legitimate mining enterprise** is when it is **first started**, and since a limited amount of stock remains to be sold, those who wish to purchase at this figure **must act promptly.**

Our board of directors is composed of conservative business and professional men of high standing, and we take pleasure in appending their names and addresses as follows:

DIRECTORS:

Rev. W. T. S. Culp, Pastor M. E. Church, Ashtabula, O.
H. D. James, Mine Owner, Milwaukee, Wis.
E. P. George, New Kensington, Pa.
C. M. Harrison, Attorney, Redfield, So. Dak.
C. R. Dixon, Mining Engineer, Roosevelt, Idaho.
O. F. Gibbs, Real Estate, Chicago.
J. O. Brown, Dentist, Chicago.
C. G. Todd, Chicago National Bank, Chicago.
W. S. Kilmer, Mines & Mining Stock, Chicago.
H. G. Fulton, Superintendent at Mines.

DEPOSITORY:

CHICAGO NATIONAL BANK, Chicago.

SEND FOR PROSPECTUS. IT TELLS THE WHOLE STORY.

We shall also be pleased to answer all inquiries, whether by mail or in person, at our office,

THE PITTSBURG TUNNEL MINING CO.
934 Watson Building CHICAGO, ILL.

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Spring.

MRS. E. R. THOMPSON.

After the snows and the storms of the winter,
Springtime has come with her songbirds and flowers;
Up in the tree tops the sparrows are singing,
Building their nests through the bright sunny hours.

Down in the green grass the violets are blooming,
Tender and blue as the sky above;
Lilacs are filling the air with fragrance,
All teaching us of the dear Father's love.

Afar on the hillside the cattle are feeding,
In the dusk of the evening the whippoorwills call,
The willows bend low o'er the stream in the meadow,
And the charm of the springtime broods over it all.

And when day is done and the darkness has fallen,
And covered the earth with its magical charm,
Then let us be thankful for home and its duties,
For peace and contentment are found on the farm.

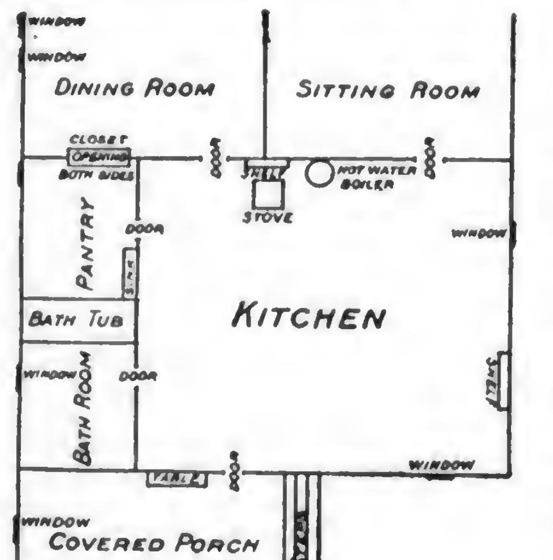
Poole, Md.

◆

In the Kitchen.

FLORENCE A. HAYES.

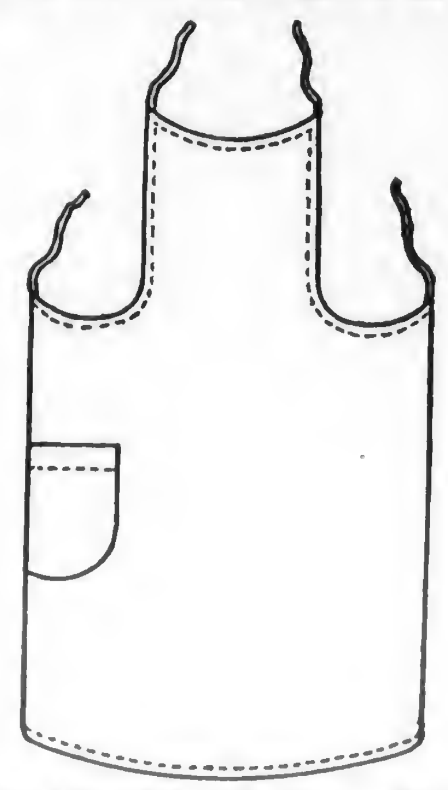
The average housekeeper spends the greater part of her time in the kitchen, and next to the bedrooms the greatest care should be taken as to location and ventilation. Many kitchens we have seen on the north side of a house, with perhaps one or more windows, covered by a porch, overlooking a back yard in which all the kitchen slops are carelessly thrown summer and winter. In this little, darkly papered and painted room (so done to not show dirt?) the wife and mother stays, cooking over a hot stove, breathing the same air, seeing the same objects over and over again. Who wonders she is sick or gets the blues sometimes? How many men could stand it as long? We have in mind a kitchen large enough to be convenient, on the southeast corner of the house, arranged as in the accompanying illustration.



Wainscoting and woodwork painted pearl gray, wall paper gray, shading to crimson; windows large, open at top and bottom; a bright geranium in south window. Floor covered with linoleum or painted. An easy chair close by the window, near which is a small table for papers, work basket or book. A good place to rest while waiting or watching. The shelf back of stove is covered with oilcloth. The other is draped with linen towel, fringed ends, bordered with red.

The stove is blacked just before the colored clothes are rinsed on wash day. Paper sacks are drawn over the hands when blacking it. Thus two disagreeable duties are done and no marks left behind. Splashers of oilcloth cover the wall back of table and stove.

A little kerosene added to water in which the linoleum or windows are washed helps to keep them bright. A few drops added to starch gives a gloss and prevents sticking. The back porch is covered, with window in one end. Here, in warm weather, ironing is done and vegetables are prepared. There is a high stool handy, used to sit on when ironing, washing dishes and baking hot cakes in the morning. This is a bright, cosy kitchen in which father often sits mornings watching mother prepare breakfast. Cool mornings the family gather here for prayers, and why not? It is bright, clean and homelike. The handiest kitchen aprons are made like illustration, from dark shirting. There are no pins or buttons. Tape is used for the strings. It is made long, reaching to the bottom of the dress. Stocking legs make good sleeve protectors. A pair of small shears are found handy to cut lettuce and string beans, also to gather cucumbers. Keep a pair in the pocket of the kitchen apron. Let the dining-room be bright and pleasant, the table kept neat and clean. Mats of oilcloth laid under the childrens' plates help; also use bibs for small children, made of oilcloth and bound with cloth. Paint the floor or cover with matting—rugs made of matting the required size. Bind with cloth, stitched on the machine.



Vancouver, Wash.

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J. Worth, Litchfield, Ill., writes: Recently some lady told how she made lye hominy. She said she put the corn in lye water today and cooked it tomorrow, boiling it about ten hours. I am a hominy maker, and above directions are not right, or at least I think not. Below I will tell how I make it.

I shell 10 quarts of No. 1 white corn today, put it in a large iron wash boiler, put ten quarts water on it and add one 5-cent box of lye, stirring it up well. Tomorrow at the same hour I set the boiler on the cook stove, put in half a bucket of water and stir well. As the water gets hot, I stir all the time, to prevent it sticking to the boiler, until it boils for two minutes. Take it off, carry it to the well and pour five buckets of water on it, one after the other, stirring and pouring off each bucket of water. Put the boiler on the stove, pour a teakettle of hot water upon the corn and stir it constantly until it boils three minutes again. Take boiler off and to the well and pour and stir as before, eight or ten buckets of water on it. By this time the lye will be so reduced that you can put your hands in the corn to rub it and take off the remaining hulls, without making your hands sore. Next, pour the corn and water into a 6-gallon tin lard can, and pour on and stir and pour off fifteen to twenty buckets of water, or until the last hull is carried away. Now your hominy is ready to cook, and it takes from six to eight hours hard boiling to make it done, renewing the water with boiling hot water to keep it boiling. My hominy, thus prepared, is without a hull in a barrel, and almost as white as boiled rice, and if kept cool, will keep for a week. There are many ways of serving, but our favorite is with cream gravy made after frying fresh pork or beefsteak.

◆

Bed Quilts.

E. J. C.

There is no better way to teach little girls to sew than to give them some pretty calico pieces, and show them how they should be put together to make a quilt block. Very simple patterns are chosen at first, such as the nine-patch or star, but they will soon acquire considerable skill in sewing the seams and getting the corners nicely fitted. Their first efforts are usually utilized for a cover for dolly's bed, and they will then be ready for something more difficult.

Quilts that are in constant use need frequent washing to keep them sweet and clean. No doubt the easiest way of renovating them would be to send them to the laundry or some place where they make a specialty of such work, but many of us cannot afford to do that, and it is really not very hard or disagreeable work if managed properly. Choose a sunny day, and begin early in the morning so they will have plenty of time to dry. A washing machine and wringer are indispensable unless we are blessed with more strength than most women. Heat the water until quite hot, dissolve enough Gold Dust washing powder in it to make a strong suds, and pour it in the machine. Put the quilt in, work the machine vigorously for ten minutes, pass the quilt through the wringer, change the dirty suds for a clean one, and wash again. Two rinse waters will be needed, and a little bluing may be added to the second. Hang the quilt on the line, turn the edges over just enough to hold it, and fasten it securely with clothes-pins. The first suds will be too dirty to use again, but the second will do to wash the next quilt in the first time, heating more water for the second. When thoroughly dry they are ready to use.

Emporia, Kan.

◆

The Art of Sweeping and Dusting.

MRS. T. S. LEWIS.

It would seem that all housewives so thoroughly understand this subject that there is nothing left to be said, but there are different ways of doing the same thing and "What is worth doing at all is worth doing well." A regular day for this work is observed in most well regulated households. Friday is perhaps the best. At least we find it so, as it comes sufficiently near Sunday for the house to have a fresh appearance on that day, and it leaves Saturday for baking and scrubbing. It is supposed that the task is not undertaken until the beds are all made. Then, with cloths made for the purpose, from flour sacks or old muslin, cover the beds and upholstered furniture. Carry all cushions outdoors, where they should be beaten and hung on the line. Next, all rugs should be taken out, beaten well and aired while sweeping is going on. Now take a broom, which is covered with a sack tied tightly around the handle, and sweep down the walls. This only need be done once a month. Next dip the broom in a pail of clean water set on the porch, and then shake off thoroughly. Begin with the best room, and do not press down too heavily, but rather lightly, and go out occasionally and knock the dust out of the broom. After one such sweeping just go over it again quickly, then clean the broom thoroughly in the water and repeat the process with the other rooms. Don't have contrary winds blowing the dust around while sweeping, but as soon as through open all doors and windows for dust to blow out. Then begin with the first room swept, where the dust has had time to settle, and with a soft dust rag dust everything thoroughly, often taking the duster out to shake it, and arranging everything neatly and tastefully in their places. All upholstered furniture should be first dusted with whisk broom, kept for that purpose, and then with the soft duster. Bric-a-brac also should be dusted very carefully by the piece, as well as all exposed china. Do not use feathered dusters to flirt the dust all around the room, where it will again settle on the furniture. Now bring in cushions and rugs and arrange them and the work is complete. A room rarely used does not need sweeping every week. Should there be a very heavy dust storm, common in the Western prairie States, I have found it a good plan to take a damp rag and gather up the dust from window ledges and all level places where it may have lodged in quantities, then first sweep with a dry broom and proceed to dampen and sweep again and dust as if no dust storm had visited you. The damp cloth gathers up the dirt so that it will not fly around the room. I have known housekeepers to bend almost double over their brooms, raising a dense cloud of dust, which, of course, settled back on furniture and carpets. Then with a feather duster it was again sent flying through the rooms to finally settle again on the furniture and woodwork from which it was dislodged. The idea is to get the dust out of the house.

Lompoc, Cal.

["Many men of many minds," and we may add, "Many housekeepers of many kinds." Now, we do not believe in wetting the broom. It makes a grimy carpet, we believe.—Ed.]

◆

System in Home Duties.

MRS. E. R. CORNELIUS.

In all institutions, be they for mental or physical training, or in business establishments, there must be a systematized plan of work. Each hour of the day has its especial duty. Just so the success of any undertaking depends largely upon the method and regularity of its proceedings.

Every housewife knows the importance of foresight and a calculation of the duties lying before her; yet no set of rules may be laid down that will suit all cases; but the circumstances of the individual must determine the routine of work. We see one woman whose ideal of housewifery is to wash on Monday, iron on Tuesday, etc., each day having its particular task. Nothing may interfere with her daily plans. No matter what her feelings may be, nor how her inclinations may lead, she bows submissively to the dictates of such routine—a veritable votary at this shrine of system.

On the other hand, we see a woman whose plans are laid as carefully, whose duties are mapped out with great foresight and precision, yet bows not to the stern decrees of so-called system. One to whom the duties of home life mean far more than mere application of one's self to a code of rules. System in work does not mean subjugating one's self to a dogmatic adherence to rules, but to contrive that duties may be performed according to wisest plans, suiting that particular duty, at that particular time. So many things paramount to the issues of mere household duties, must be considered by housewives. Health and happiness (and they cover a vast field) are of far more importance than to follow a set plan regardless of convenience, fitness and consideration of one's own and others' feelings. To the true housewife the manner of doing her work, and the means provided for the performance of such, far outweighs the importance of a set time for doing these duties. Hygienic principles applied in the care of rooms, beds and clothing, and in the preparation of foods, is too essential to be overlooked by any housewife. It is argued by some that more may be accomplished by anticipating each duty, that one will be the better prepared for the performance of such and the more quickly will it be dispatched. And when done, one's time is at her own disposal. But the couplet, "Man works from sun to sun, but woman's work is never done," may truly be applied to the busy housewife. In beginning as housewives, we have each experienced the feeling, "Duty first, pleasure afterwards," and have denied ourselves many needed outings, simply because we were rushed with work. But as family cares increase, wisdom also increases, and we see the folly of being a mere drudge, and realize that "All work and no play makes Jack a dull boy." A mother and wife, in her truest sense, must be one of rounded character. For the sake of children, husband and self must she seek mental improvement and observe physical laws. A housekeeper may not be a home-maker, but a true homemaker is always the best of housekeepers. Some may think it eases the conscience to know that all work mapped out is done, but it seems to me, feelings of independence are augmented where work is our slave, and ourselves not a slave to the performance of such. That we are not compelled to feel duty pressing us on every side, and that the load must be lifted ere we pass on our way. To wash and iron, to brew and stew, to sew and patch, are duties assumed which we must not shirk, yet to teach the physical laws that govern our being, to lead the way to higher mental and moral growth, should be a self-imposed task on each of us.

Hardy, Ark.

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Correspondence.

Rev. Herbert E. Foss, pastor of Arch St. M. E. Church, Philadelphia, Pa., when asked his views on woman suffrage, replied: "I know of no good reason why women should not have the full right of suffrage. Woman's claim is generally conceded to be a just one but it is said that she does not know enough about public affairs to make her a safe voter, but if her success in other and most varied fields of the world's activity has any meaning it would not be long before she would become amply equipped for intelligent citizenship. With the most insinuating flattery her male protectors tell her that her demand is entirely just and that her intelligence and purity would doubtless lift the tone of public affairs, but that her womanly qualities must not be menaced and her pure instincts not be violated by the atmosphere with which they have surrounded the ballot-box. The ridiculousness of this excuse may be seen when we remember that the very politicians who are so careful of the womanly qualities, and pure instincts of woman, are often hand in hand with the men and the institutions that seek for money or influence to debauch young men, and pollute the very springs of womanhood. It is a most significant fact, that where women have had the suffrage for a considerable period of time, it is difficult to find respectable opposition to its continuance."

Mrs. Hattie Peacock, Gardiner, Me., writes: I wonder if Mrs. Wm. J. Wright will not think me very lazy and soft-headed or "deficient." I have a comfortable rocker in my kitchen; bought it with the six kitchen chairs, table, stove, etc., just because I think the kitchen should be the most comfortable room in the house. I also have a food chopper, a concern to pare, core and slice apples, and a washing machine, and quite often I sit in my rocking chair and run the washer, which turns half way round and back. I sometimes even read at the same time. "Horrid," but I'd rather rust out than wear out: it is more comfortable, and takes longer. This is a most beautiful world. If we want to find them, there are a good many good people in it, and I want to stay here as long as I can. I have an excellent husband. When he has time he brings my wood in and pumps a kettle of water, besides filling the water pail, though our pump is in the sink. When I am sick or tired, he helps wash dishes, undresses or dresses Ruth, and does lots of things. I do not polish my stove; I just rub it clean with a damp cloth or newspaper. Another thing I have is a roaster that bastes anything I bake. It cost $1, and saves lots of time and bother. How much longer does it take to sit down in a comfortable rocking chair (one without arms) and peel apples or potatoes, than it does to stand in front of a sink or table? I used to be very thin, but now I save all my strength. I do not get so tired, and have more time to sing; I cannot sing when I am tired, and how much nicer it must be to a man to come home and hear his wife singing, even if she has no voice, than to come home each and every day to find silence reigning or somebody scolding. I think I would die if I were too tired to sing, and I laugh, too, and I'm growing fat. I have taken no medicine for nearly a year, excepting once, and that made me ill. I just sing and laugh and I have gained as much as fifteen pounds! I sometimes feed the horses and cow, when my husband is away, and help plant the garden, and I cut potatoes to plant. I help gather pears, plums, cherries, etc. I think if Mrs. Wright will plant lettuce seeds among her squashes and cucumbers she won't be bothered with bugs. Why should not a man help his wife if she helps him? Is not a man stronger and is it not as hard for a woman to work in the house, going from a hot kitchen to a cold cellar, or the cooler dining or other rooms? I accept of all the help I can get, and help all my husband will let me. One mistake I made the first three years of my married life, I staid at home too closely; I grew—well, I think stagnant is the word. I had no company, read very little, although I like reading matter— not cheap literature, but sensible reading. Now we have three monthly, one weekly and a daily paper, and if I had to choose between them all I would take the weekly paper. It is thoroughly practical, has always a good store of knowledge and common sense experience, and I think where everyone has the right and is invited to give his experience it is more interesting. "Variety is the spice of life that gives it all its flavor." Our Editor wants to know what we have learned in the last few months. I suppose that is to draw people out and see what they have learned that has helped them. Some will take that morally; some the amount of work they have learned to do or have done. Well, I have learned to keep my opinions to myself. I always had a way of minding my own business, but I think people are, as a general thing, too apt to form opinions hastily. Now, I sift the story and hunt for the circumstances, and if one believes a person has done a certain thing or said something to hurt one, one need not think everyone believes it. There, I have learned that, and it is quite a "lot." It really does not hurt us if envious people try to injure us, or throw dirt on our name, so long as we know we are all right. Some cheap people have to talk. It is a wonder to me that there isn't more vice in the world than there is, where there are so many ignorant people. After their work is done they have only their own resources to depend on, and so must fall back on their animal natures for amusement. While I do not approve of drinking intoxicating liquors, attending cheap plays, etc., I don't think that we who have things comfortable and bright, who have a fair amount of education, should blame the ignorant so much. Again, I agree with "A Mother" in regard to the number of children one should have. Possibly if "A Mother" were strong enough, and could afford to clothe eight she would have that number. I have seen "messes" of children, one family in particular I recall. Now they are grown up—ignorant and look no higher than what they shall eat and wear. I don't know of a single family of more than four children where the children have decent educations and good health. My mother has nine. Each of us could know considerably more without serious discomfort, and we are not very robust, while mother is broken down in health at forty-seven. There, I have been selfish and written too much, and I could write all night. When I write to the P. F. I feel as if I were writing to a very dear friend. Just one word more to you who are far away from home. Write to mother once a week anyway, and write a good long letter.

[We enjoy your letters as much as you enjoy writing them—perhaps more.—Ed.]

Edwin D. Mead writes: When I think of the women with whom I constantly work in Boston, who are serving with such broad devotion every public interest, when I think of my own wife, and consider that such women are denied the suffrage given to the man just intelligent enough to run their furnace and clean their sidewalks—when I think of absurdities like this, I do not need to be told, and the Legislature of Massachusetts ought not to need to be told, that, whatever conditions may rightfully be imposed upon the suffrage, a condition which draws lines like this clearly is not one of them. But, while we may have to wait a few years, all surely ought to see that the taxing of one's property for public purposes without giving the taxed person any voice is in opposition to fundamental English principles. England herself already clearly sees this, and women there have now the municipal suffrage. Surely we ought not to be behind Old England in this matter.

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Youth's Parliament.

Louella Palmer, Richmond, Me., writes: I read Loyd Critchlow's letter about his dog. I have a Shepherd dog named Rover. We are great friends. When it is time for us to get home from school he goes out on the hill and sits down. When he hears us talking up the road he runs to meet us. He will not steal even meat, no matter how hungry he is. He will not eat out of a dirty dish, so never troubles the swill pail. He shakes hands and lies down and plays "baby" so cute. We have three horses and two colts. They come in the house if they get a chance. We run a milk route, so sell our calves. Our colts are nine and eighteen months old; are trained to harness and sled, so won't have to be broken. I have four brothers and four sisters. I am eight years old and the "baby." Our school is three miles away. Our teacher is never cross.

Miss Zeliah Fulton, Waterloo, Ind., writes: Dear Mrs. Melville: Will you permit another stranger to join the Golden Rule Band of Mercy? I am a girl fourteen years of age. My mamma takes the P. F. and we like it very much. For pets I have a dog, a cat, a pig and three bantams. I have two brothers and one sister. I promise to be kind to and try to protect all living creatures. Hoping to see this in print, I will close.

[Welcome to our new member.—Ed.]

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Topic No. 568, April 18.—*In Farming on Shares, What is Considered a Fair Rent in Your Section, and Should the Share Include the Poultry the Wife Raises?*

Topic No. 569, April 25.—*What is Your Experience with Hired White Labor in the South as Compared with That of the Negro?*

Topic No. 570, May 2.—*What is Your Experience in Stacking Hay Right from the Swath, and Have You Any Home-Made Derrick That Has Proved Economical of Time and Labor in the Stacking? Do You Use Fork, Horse Fork or Sling?*

Topic No. 571, May 9.—*Give us Your Experience with Alfalfa East of the Mississippi.*

Topic No. 572, May 16.—*Cherries for Market. Have You Found Them Profitable, and What are the Most Profitable Sorts?*

Topic No. 573, May 23.—*Give Your Experience with Portable Fruit Evaporators, and Tell How You Keep Worms Out of the Dried Fruit.*

Topic No. 566.—How do You Raise Turkeys, and What Breed is Best?

I. B. Northcutt, Independence, Ky.—Our first step in turkey raising was to secure pure bred stock with which to start. We mate one tom to eight or ten hens and prefer a yearling tom and hens two years old, but use young stock successfully when the older is not available. As soon in spring as they begin showing signs of laying we build a large pen about 10x16 feet and roof it with straw if nothing else is handy, slanting the roof all one way and having the door to the pen on the high side of the pen, this to prevent the turkeys from flying upon the roof when driving them in. On the eave, or low side of pen we build our nests. These we build on the ground and arrange them so we can fasten them up on the inside of the pen and open the outside so that when a hen goes broody we can set her and allow her to come and go to suit herself and not be disturbed by the hens remaining in the pen. We always dust our hens with some good insect powder at least twice during the laying season; this we do by catching them and holding them by the legs, head downward over a tight box and shaking handfuls of powder into their feathers, using the box to catch what powder falls through the feathers, to be used again. This is done that the poults may be as nearly free from lice as possible when passing through the most critical period of their existence, their first week. When our hens begin laying they are confined in the pen each morning after feeding, about two hours, and are let out each evening about an hour before sundown, and a watch is always kept on them when turned out of an evening, and if one shows signs of wanting to lay she is immediately returned to the pen and kept there all night if necessary. The eggs are gathered each evening and a straight mark made the long way of the egg with a soft lead pencil, and the day upon which it was laid is also marked on it. A box provided with cotton batting and close-fitting lid, is kept in a warm room for storing the eggs. Each evening every egg is removed from the box with hands washed scrupulously clean and then re-packed in the box, the pencil mark up one day and down the next. About April 10th to 15th we set all, or as near all of our eggs as we can, under chicken hens, knowing that some of our turkey hens will become broody before the eggs hatch. As soon as one of the turkey hens becomes broody her nest is arranged so she can go off to feed at her pleasure and some of the eggs are taken from under the chicken hens and put under her, thus saving her a great deal of time and getting the poults out at what we think is the best time. Frequently we have put eggs under a turkey hen at night, that were pipped, and had her come off the next morning with her brood as proud a mother as if she had put in the full four weeks incubating them. We never allow our hens to lay but one clutch of eggs if we can have our way. Experience has taught us that late turkeys do not pay. All through the laying season we feed our hens wheat and keep grit and oyster shells always before them. They usually lay about two dozen eggs each, some more, some less. When the poults are out we wet their heads and vents with thick cream to kill any large head lice, and let them remain quiet until the second day, when they are fed sparingly on hard boiled egg chopped fine and made black with ground black pepper. We confine each hen in a movable coop so constructed that the little ones can run in and out to suit themselves, and after the third day feed them bread crumbs, curds and finely chopped onion tops; later, we feed cracked corn and wheat. As soon as the little fellows are able to stand travel we turn the mother out, but are careful to always have them return home to roost. We feed our turkeys all summer, and have found wheat the best feed for them after they are able to eat it. We keep the White Hollands and think them the best because they are more domesticated than other breeds, and they are hardier, mature quicker, lay more eggs and dress plumper and sell better on the dressed fowl market. Our young toms usually weigh 16 to 24 pounds, and our pullets 10 to 16 pounds for Christmas. We seldom have any disease among them, and usually raise about one turkey for every two eggs set.

Mrs. C. Bramhall, Camptown, Pa.—At first I lost a great many turkeys, but by perseverance have become successful. I set the first eggs under hens and allow the turkey hen to go to laying again, and set her after the second laying. Feed the young at first with bread softened in milk, and afterwards corn meal in buttermilk without salt. Feed in old saucers washed daily, and rub their heads with lard scented with kerosene or carbolic acid to keep off vermin. Keep them out of dew or rain until feathered, and then allow them to run. Use Bronze turkeys.

H. B. Kohler, Canfield, O.—I use a medium sized hen and gobbler and change gobbler every year. Take eggs from nest daily and put in a cool place and turn them daily. When hatched they are put in a warm, sunny place, with board floor to the coop. First week feed corn bread and scalded curd seasoned with pepper and salt, with fresh water. Clean coop daily, as filth is fatal. Feed often and do not expose to rains. When a week old I mix sand and ground bone in their feed. When two weeks old I open the coop and let them run where they choose. When fattening for market I do not start with a full feed at once, as new corn will cause bowel trouble, but make a mixture of corn, wheat and oats placed in a trough. After they get used to it I scatter the grain. I raise the Mammoth Bronze, as they are heartiest and large turkeys are always in demand.

F. E. Walter, Black Ash, Pa. — After the turkey hens lay their first eggs I prepare nests and set them under a Plymouth Rock hen that has started to set on hen eggs, and change the eggs for turkey eggs at night, using 11 turkey eggs. Sprinkle fine tobacco in the nest to keep out vermin, and dust the hens with insect powder. I destroy the turkey nests to get them to laying again and then let them sit on all they lay the last time. Set them to hatch the same time the chicken hens do. When hatched I give them plenty of water, with milk curd and a little sand. As soon as old enough, give them cracked wheat. I had trouble with lice on young turkeys, and cured them with lamp oil and lard mixed equally, rubbed on head and neck, and repeated the rubbing in a few days, till cured. As soon as the chicken hens weaned them they were old enough to run and ran with the rest. I prefer Bronze.

W. I. Wilson, Everton, Mo.—We have been raising turkeys with success. At first we let chicken hens take care of them, thinking to get more eggs and raise more, but we quit this as those raised by chickens are more trouble to raise and sure to be bothered with lice, and they will not mature as soon as the later ones allowed to run with the turkeys. We start with five or six 3-year-old hens and a gobbler not over two years old, from a different flock. They have a wide range and we often have to watch some time for their nests. We remove the eggs as laid. When they sit we place as many eggs as we have under a hen turkey and three or four chickens, and when hatched give them to the turkey hen. In this way four of our six hens lay the second time and we get as many as though we had ten hens, or about 120 eggs. We remove the last eggs, but replace them as soon as they go to sitting. Do not give the young any food till over 24 hours old and then feed them curd pressed dry, with onion tops chopped fine or with lettuce mixed with black pepper. This food is continued till they are four to six weeks old with the addition of corn bread. Confine them four or five days, except in heat of the day, and after this keep them up nights till the dew is off in the mornings. Accustom them to a regular roosting place and they will be no trouble after they learn to fly. The Mammoth Bronze is the best breed.

C. W. Kellogg, Bedford, O.—I set the turkey eggs under hens. They will stay with the hens and not wander much. Feed first week with bread moistened with milk, not sloppy. Then feed wheat lightly. When three or four weeks old they can eat corn. Keep housed at night with the hens, and when grown give them the run of the farm. Keep the house whitewashed and use kerosene freely on the roosts, and do not have trouble with lice. I have good success with the Bronze turkeys. They are hardy and tame. Have not tried the white breed. Everyone has different tasts as to color but all taste alike when cooked for Thanksgiving, and we could not do without them at that time of the year.

Mrs. J. W. Hickman, Tipton, Mo.—I keep three or four turkey hens and let them run in the orchard and nest in box or barrel. Set eggs under chicken hens that have been well cleaned of lice. When hatched I place them in a warm box in the kitchen and cover with woolen cloths. Feed after 30 or 40 hours hard boiled eggs chopped fine and mixed with corn meal. Then give them soft curd and meal, and then wheat, and corn as soon as they can swallow whole grain. Put them with a chicken hen, and keep them out of dew and rain. As they get larger give them range. Keep old and young free from lice and feed frequently. Never let them out in dew or rain till feathered, and keep fresh water and charcoal and grit before them at all times. The Mammoth Bronze is the best breed. I have raised from one tom and four hens thirty to seventy-five fine fellows. I am trying the White Holland this spring. Must raise to suit our market.

A. L. Stanley, Santa Maria, Cal.—I find by sad experience that I have killed more little turkeys by coddling than by neglect. They get along better left to nature and the old mother hen turkey. Mine are the native Spanish mixed with Bronze. Have one tom and nine hens. I prefer a tom two years old or over. I mark my hens and keep the same tom for two or more years. Keep hens that will commence to lay about Thanksgiving or earlier, for the gobblers are then nearly full grown and bring a better price, and turkey hens sell better when a year old. As feed I have better success with curds than with hard boiled eggs, and do not feed eggs now. Mix black pepper with the curds. Have good success with a bread made of one part wheat middlings, two parts unbolted corn meal mixed with sour milk, eggs and soda. I feed this with curds, plentifully sprinkled with black pepper. Feed a little at a time and never more than three times daily. Keep in a wire coop the first week, and after that turn them out in daytime but shut them in coop at night till four or five weeks old, and then let them run. The hens select their own nests, but if one is too far from the house I move her to a coop near by and shut her up a few days. I have thirteen hatched the 2nd of January, and expect to raise every one of them. Last Christmas we sold 500 pounds of turkeys at 18 cents a pound. This we thought good, having but seven turkey hens last year.

A. E. Fisher, South Middleton, Can.—Turkeys, while more tender at first than chicks, are stronger as they get older. We let our turkeys roost in a tree all winter, except in extra cold weather, when they go overhead in the colts' shed of their own accord. Feed them very little and let them pick around the corn crib and give them a mash of chop and roots scalded for the chickens. In spring they gain slowly as the grass starts. We raise them mainly to eat the grasshoppers. We do not bother them and they do not bother us during the early summer, and the less you bother with them the better. Black turkeys are the best, as they are not so easily seen by hawks, owls and foxes. Do not let them roost with the chickens. We winter over three hen turkeys and one gobbler, fattening the rest in the fall. We do not shut them up to fatten as we do chickens. We tried to raise a lot one year and set the eggs under hens and had twenty-six, of which we raised two. Since then we have let them run.

Mrs. G. H. Mason, Rushville, Ill.—I keep from three to five turkey hens. As soon as the first turkey hen sits I give her 15 to 18 eggs and manage to set some chicken hens at same time on 8 or 9 eggs each, and when hatched give them all to the turkey hen. Train her to come up with the little ones. To do this I tie her out with a rope about ten feet long and stake her some distance from the house in the direction I want her to go when turned loose. Take her in in the evening and put in a dry place and feed, turning out after the dew is off in the morning till the little ones know me and will follow me, and when untied will come to feed and the roosting place. Feed and water during the day when staked out, with milk curd and light bread moistened with sweet milk. Two years ago I had 33 hatched and raised 30. Last year, through carelessness, I let the lice kill some after they were feathered. I had failed to kill all the lice on the old hen. I fed some dry wheat to them, thinking they would hunt for gravel they needed, but they did not and the wheat lay in their crops and killed some. We keep the Bronze turkeys.

J. F. Botts, Glenwood, Mo.—We find that a larger per cent. of the turkeys can be raised by letting the hen turkey care for the young. We have a large cattle shed, open on the south, and convenient to a blue grass pasture. We drive the hens and broods under this at night and they soon learn to roost under it and seek shelter there in rains. Food for the young for a few days consists of dried bread crumbs, cottage cheese, hard boiled eggs and onions chopped fine, sweet milk and grit. When grasshoppers are plenty they get their food as soon as able to follow the hen. To prevent the hen taking the young ones through dewy grass and weeds we picket her out on a pasture where insects and shade are handy and the grass too short for them to get wet in, using a strong cord 100 feet long, and placing a coop near them for shelter. Change the location every few days to give them new ground. When feathered the trouble is over, as they gather their living and destroy many insects. We prefer the large Bronze.

F. C. Murphy, Sunbury, O.—I save fair sized, broad-backed hens of the first hatch. Avoid very large hens, as they often lay soft eggs. I prefer old hens to young ones, as they hatch stronger turkeys and their nests are more easily found, as they always make nests near where they sat the previous year. Have raised both the Narragansett and the Bronze. The first is best where there are near neighbors, and the Bronze where there is a wide range. I keep six to ten hens and one tom. As soon as they have laid 24 eggs I set them under two chicken hens. Before they are hatched a turkey will have begun to sit and I give a few of the eggs to the turkey. After the young are 24 hours old I give them all to the turkey and turn her loose in the yard. If she is inclined to wander I tie her by one leg to a bolt driven into the ground so she cannot wind the string around it. I follow this plan till each turkey has a nice brood. I hatch as early as possible, as the early ones grow larger than the late ones. Young turkeys are fed dry bread crumbs for a few days. After a week they are fed only sour milk cheese, with the whey pressed out. This, with what they find in their rambles, is all they get till fattening time. Little turkeys should never be fed sour milk. I never give an old turkey more than twenty young ones. If given more she cannot shelter them well and many will die. I shut the young up nightly and let them out after the sun is well up. Turkeys raised with a turkey are always better and grow faster than if raised with a chicken hen.

Mrs. P. S. Carnell, New Creek, W. Va.—Select good sized, healthy stock for breeders. If possible have them raised with chicken hens, as they will not wander so much and are more tame. I gather the eggs regularly and keep them in a cool, dark cellar, turning them every third day. I put 17 eggs under a hen. The great trouble is in getting the young through the first two weeks. I find it best to let the hen come off the nest after the young are 24 hours old and let her take the young ones. If she wanders too far, confine her to a yard. I feed them all they will eat four or five times a day with bread crumbs soaked in sweet milk and crumbly curd with a little pepper and chopped onion tops. Finely chopped meat is good when confined away from their natural insect food. Later, they can range for themselves. I have tried the Blue, the Buff and the Bronze, and all are good and profitable when well cared for. The best flock I ever raised was a cross of a Blue gobbler on a Bronze hen.

J. S. Phillips, Lancaster, O.—I have never kept more than two hens. Set the eggs under chicken hens, and when hatched keep warm and dry and feed bread soaked in milk and pressed dry. Feed four or five times a day for the first few weeks. Then three and finally twice a day. Let them out daily when warm and dry. If there are not scraps enough of wheat bread use corn bread after they have a good start. When large enough to roam they need little feeding. My troubles begin in the fall when they always have roup more or less. More young turkeys die from lice than anything else. Grease them with warm lard on the wings once in ten days. I have raised the Bronze and the White Holland. The Bronze are the larger, but the Whites are hardier. Three years ago I raised forty-five from two hens, besides six which were drowned when as large as quails. Last year I raised thirty-two from two hens, till fall, when the roup left me twenty. It is hard work and often poor pay.

Mrs. Ella Adams, Hackberry, Texas.—I gather the eggs the same day they are laid, and put in a cool, dark place and turn often. Set a turkey hen, and as they hatch take the young out and then put the hen with them in a coop in the garden and let the little ones run out. Feed several times daily with corn bread and curd, not too wet, and with a sprinkle of pepper, red or black. After they are a month old they have free range. I raise the Bronze.

Irvin G. Miles, Bewinsdale, Pa.—We keep about three hens to one tom, and in the spring, as they begin to lay, shut them up in the barn shed and make the nests handy, till they lay, and then let them out, as they will come back to lay. Set hens with 15 eggs and from the three we get about forty. When hatched put them in a coop for a day or two and then let them out through the day and put back at night and they will soon learn to come home to roost. We feed buttermilk boiled and strained. We prefer the Bronze.

Mrs. A. B. Bushong, Sweet Water, Tenn.—I prefer 2-year-old hens and a yearling tom, which will insure a large number of gobblers. Feed well in winter, but not to fatten. Use no stimulants nor condition powders. They usually select their own nests, but by shutting them up in the morning till anxious to get out I can usually find the nests. I gather the eggs and put them in a cool place and turn daily until one turkey hen and two chickens want to sit. I give the turkey 13 eggs and the hens 7 each. Later they will each cover more. When the young are 36 hours old I put them with the hen in a coop with yard of boards on edge. Feed often, but little at a time. Feed curd and bread with onions and lettuce chopped up in it, and never any sloppy food. Keep clean water and grit by them. The hens not needed for setting I let lay a second time. Every

(Concluded on page 245.)

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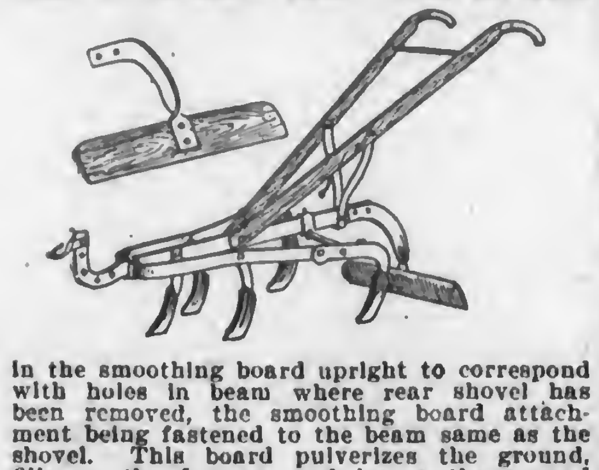
Farm Implement Annex

To The Practical Farmer.

It is the purpose of this department to assist P. F. readers in securing the best implements and machinery for doing their work, and to so adjust, manage and care for same as to get the best possible returns from their use. We invite subscribers to write us fully and freely in regard to farm implements and machinery. Pointers on selecting implements for various kinds of work and soil; on buying, operating and caring for them; their defects, improvements, attachments, adjustments, etc., will be welcome. A cash prize of 50 cents will be paid for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Put at top of each article For "Farm Implement Annex," and send to Geo. T. Pettit, Box 32, Oneida, Kan.

Smoothing Board for 5-Tooth Cultivator.—Have your blacksmith make an upright from a piece 1½x⅜-inch iron 20 inches long. Have the iron bent so the smoothing board, which is bolted to it, will slant back about as much as the shovels slant forward. The board is 3 feet 3 inches long, to cultivate rows 3 feet 9 inches wide. The rear shovel is removed and put toward the front on the centre beam. Holes are made in the smoothing board upright to correspond with holes in beam where rear shovel has been removed, the smoothing board attachment being fastened to the beam same as the shovel. This board pulverizes the ground, fills up the furrows and leaves the ground perfectly level. JAMES HELZER.
Otisco, Ind.



A Good Washer.—I bought one of the "1900" washers, which I saw advertised in the P. F. It runs lighter, washes quicker and better than any machine we ever owned or tried, and no boiling of the clothes is required. My wife says it is a pleasure to wash now with the washer. I think this machine will do any family more good than anything else they could buy with the money. If we men could get a machine that would do the work in half the time we now do it, we would have it at any cost. Why not do as much for the women folks?
Hedrick, Ia. W. C. BRYSON.

Fodder Puller.—A very handy tool to pull corn stalks out of the stack is made by taking an old manure fork and having your blacksmith bend the tines so they will set the same as a hoe or potato hook. Now put in a long handle and you will have a tool which will do the business, no hunting for bands or getting your hands in the snow.
Whitehouse, N. J. THEO. C. VLIET.

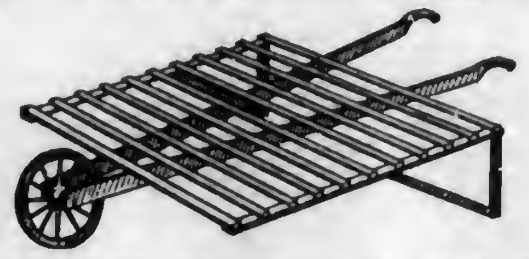
Straw Carrier for Small Thresher.—On small farms where but little help is kept, and a 1-horse thresher is used, a straw carrier is a great help. One can be made of old binder chains and half inch boards off of old store boxes, which can sometimes be had for the asking and do not cost more than 5 cents at any grocery. A frame will be needed and in the frame a shaft with three wheels attached, one for belt and two for the endless chains. With this the straw can be elevated into mow and thus save the work of one hand. One of our neighbors made one so that his 13-year-old boy could attend school every day and would not have to remain home to help with the threshing.
Creamery, Pa. H. W. HALLMAN.

Oiling Wagon and Buggy Wheels.—In Dec. 20th number of the P. F. I noticed an article on oiling wheels, and would like to give my experience in that line. I find it is ever so much better to soak the wheels in water for 8 or 10 hours before boiling them in linseed oil. The soaking opens the pores of the wood and it will then take the oil much more freely; besides, it will not brown the wood nor cause it to become brittle. I have tried both ways and found that soaking them is a great advantage.
Malott, Wash. N. E. CARPENTER.

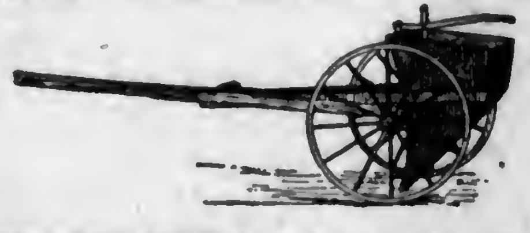
Wide Track. — Wide Tires. — The wagons used here are narrow track. I have one narrow and one wide-track wagon, both being 38 inches between the standards. Wide-track wagons do not run well on roads made by narrow-track ones, so I had to keep my wide-track strictly on the farm. One day I broke one of the wheels, and after studying awhile concluded to mend it by getting a set of new, low-down, broad-tired metal wheels. After measuring the skeins of my wagon and re-measuring to be sure I was right, I ordered two wheels 28 inches high and two more 34 inches high, staggered spokes, tires half inch thick and 6 inches wide. They fit my wagon to perfection and it makes an excellent farm wagon. I like the wide track best on the farm, and those broad tires roll over almost any kind of ground practically without cutting in any.
B. F. DOUGHERTY.
Box 447, Oklahoma City, Okla.

Short Neck-Yokes for Farm Machinery.—One of the best things I found out last summer was the advantage of using a short neck-yoke on my cultivator in plowing corn. I was doing some close work with disk cultivator and the tongue of the implement would play sidewise between the horses. So I took the neckyoke off and cut it down to 18 inches in length, and I never saw so great an improvement in the running and handling of a plow. With short neck-yoke the breast straps hold the tongue all the time where it should be. If you guide your team properly the plow will respond immediately if you wish to pull either to right or left of row. I shall use a short neck-yoke on my corn planter this spring, as I like straight rows without kinks in them. With long neckyoke, unless the ground is perfectly smooth and you spread your team very far apart, it is impossible to drive a straight row. EDW. EASLEY.
Columbia, Mo.

Wheelbarrow for the Stable.—Doubtless you often want to save as much litter as possible from the bedding of the stock. The barrow shown herewith will help you to carry it out in the sun and return it when dry. It is also wonderfully convenient for moving straw, corn fodder, brush, boxes, barrels and other bulky things. The handles are made of 2½x3½-inch pine lath, while the rack is made of lath 1 inch square, with a rim or border of 1½x2-inch pieces.
Sprankle Mills, Pa. GLADE YEAGER.



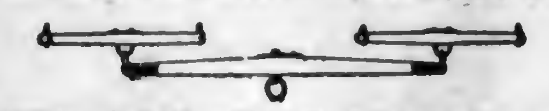
Fertilizer Distributor. — A few pieces of 2x3 spruce joist, three shoe cases and a few nails and bolts, were all the materials needed to make a fertilizer distributor which does nearly as good work as a machine costing $25. It was made to fit to the wheels and axle of a common "rattle cart." The joist slips under the cross-bar and is fastened with a bolt, which is easily removed. It is used to distribute fertilizer in drills for potatoes, and is regulated by a slide which is attached to a small pole. It does the work much faster and a great deal more evenly than can be done by hand, and none of the material can be blown away.
Amesbury, Mass. J. A. WILSON.



Too Much Machinery.—When I began farming I made a great mistake by buying too much machinery with which to do custom work. I find that a farmer cannot be a farmer and jobber successfully, for what he makes on one he will most assuredly lose on the other. If a man wants to do custom work he needs no farm, and if he wants to farm he needs no custom work. Have used a stumping machine more or less for the past twenty years; threshed eleven falls and wore out two binders. Whenever I have gone off the farm to work I have lost money in one way and another on the farm.
Spicewood, Pa. JOS. E. FISCHLER.

Investigate Before Buying Implements.—I find by far the surest way to get the best farm implements, those suited to our own peculiar ideas, locality and soil, is to keep a sharp lookout a year or two ahead of our needs. Some will wait until they need a certain implement before they investigate. They then go to town in a hurry, and as dealers usually carry but one machine of a kind in stock, and frequently have none at all on hand, the farmer has a poor chance to select and get the best of the kind he wants. He is obliged to take the dealer's word for it and take whatever he can get the quickest, which sometimes is a cheap article on which the dealer can make a large profit. Nearly every farmer has some idea of the kinds of implements he will need a year or two in advance. He should watch the agricultural press and see what it says about them. He will do well to have the matter discussed at the Farmers' Institute, also visit the dealers in neighboring towns and see what he can find there to his interest. Especially should he try to visit the State and world's fairs, where nearly every make of implement and machine is on exhibition. Here he can see and compare the features of each and decide which he wishes to buy.
Kimery, Tenn. T. P. PRIESTLY.

Double Neck-Yoke. — A double neck-yoke that is used in this section would doubtless be more generally used if better known. It consists of a common neck-yoke with little "individual" neck-yokes attached with staples put through end rings of big neck-yokes and centres of small neckyokes, with burs on top. A holding-back strap extends from the breeching on each side, with snap on the end to snap into ring of little yoke. Buckles can be used on side straps with which they can be adjusted in length. A team rigged in this way can hold back as much going down hill as they can pull up. I use the double neck-yokes on mower, binder, and grain drill, as they are easily changed and a team can turn so much easier. MERLE LEVIER.
Fisher, Pa.



Repairing a Parer.—If the rivet holding the crank wheel of your apple parer comes loose, so the cogs will not mesh with the fork cogs, failing to turn the apple a part of the time and leaving strips unpared, get a carriage bolt the right size and length, without any shoulder, and put in its place, using a washer under both head and nut, and your parer will work as well as new. Put bolt through from side next the knife. Whenever the wheel begins to wabble a slight turn of the nut will remedy the evil.
Fisher, Pa. S. A. HINDMAN.

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BY PRACTICAL FARMER SUBS.

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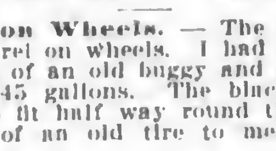
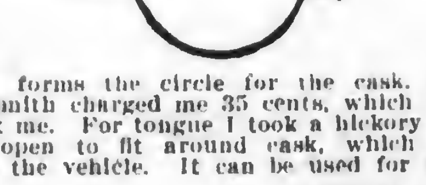
Device for Ringing Hogs. — Here is the handiest way I have ever tried yet: Get a forked stick, sharpen and drive in ground, leaving the fork just high enough to keep the hog's front feet from touching the ground when the head is placed in fork. The ringing can be quickly done, as you are not bothered with the hog turning and twisting head from side to side. The largest hogs can be easily handled in this manner, as well as saving much time and labor.

Campbellsburg, Ky. MAL L. OREM.

Barrel on Wheels. — The illustrations show a barrel on wheels. I had an axle and two wheels of an old buggy and a cask holding about 45 gallons. The blacksmith bent the axle to fit half way round the cask and took part of an old tire to meet the axle, which forms the circle for the cask. The blacksmith charged me 35 cents, which is all it cost me. For tongue I took a hickory pole, split open to fit around cask, which completes the vehicle. It can be used for many purposes, but I made mine especially for conveying the kitchen slop away from the house, so as not to endanger the health of the family.



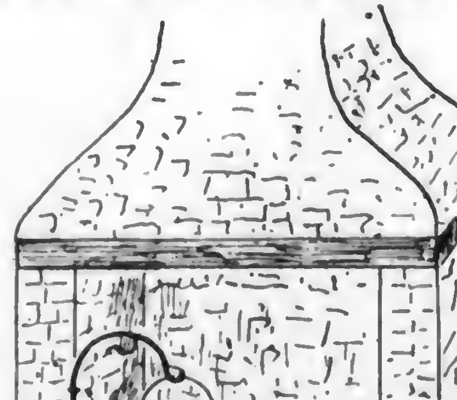


Bethel, Pa. C. R. BASHORE.

Wire Stretcher.—The cheapest, quickest and most effective wire stretcher for building wire fences that I have found is the hubs of an ordinary farm wagon. The spokes of wheels give a leverage by which one can stretch to any desired tension—even to the pulling apart of wire. Wires can be attached to both back and front hubs on one side of wagon at once, if desired.

Lexington, Ky. E. E. PATTERSON.

Device for Hanging Iron Kettles Over Fire. Take an old buggy axle or any other piece of iron, bend it according to the fireplace. Take two staples, fasten them at the corner of the fireplace, as shown in cut. A boy or woman can put the kettle to or from the fire as well as a man.



Alliance, Pa. F. J. MCALLISTER.

Care of Cisterns.—Those who have cisterns and depend on them for their water supply for family use should realize the importance of keeping them sweet and clean. The water may look all right and not taste very bad either, and yet not be fit to drink. If cisterns are not much used the water is likely to become bad, even if filtered. A soft brick filter is probably the best, and it is necessary to clean cisterns once a year, or two years at most, as the dust, leaves and other rubbish will undoubtedly find their way into the cistern through the conductors. For a 20-barrel cistern of rain water that needs purifying, throw in two ounces of borax and in a few hours the sediment will settle and the water will be fit for washing purposes.

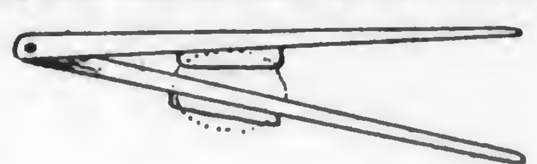
Zelda, O. MRS. ADA H. PARKER.

Handy Boxes.—We get the empty yeast boxes or other small oblong boxes, and then take a handle such as is used on berry baskets (a piece of barrel hoop will do) and put a handle across the centre. These make very convenient arrangements for fetching a few apples or potatoes out of the cellar. They are useful for many purposes. We have one to carry about the house when doing the general cleaning or on Fridays. The dust and scraps from each room can be put in them and when through can be emptied into the fire. They can be used to pick peas and beans in during the summer. In fact, they are always handy.

Keeping the Poultry House Clean. —We have the roosting poles in our hen house put in loose; they are laid on two notched pieces, one at each side. By this means the roosts can all be taken outside while cleaning out the house, and are out of the way, and at the same time can be much more thoroughly cleaned. Then the nest boxes can also be removed, and when they get too filthy, or there is any indication of mites or lice, a bunch of straw on some old newspapers are set on fire and they can be held over the flames until scorched and thoroughly purified. The laying room is separate from the roosting room and no hens are allowed to roost on the nest boxes, as they are apt to do if no attempt is made to prevent them.

Humboldt, Neb. J. O. SHROYER.

A Pie Lifter for the Oven.—Take two strips of wood three-quarters of an inch square. Round one end of each strip; hinge the other ends together; take two wires 12 inches long and put them on the handles in the manner shown in picture, and it is complete. The lifter should be two or two and a half feet in length.



H. L. VON LIENEN.

Somerset, Ill.

Home Remedies.—One of the best remedies for a burn is cat tails, the "cotton" part rubbed up in fresh lard and applied immediately to the burned flesh. It lessens the pain in an instant, and will prevent blistering. I have known it to be used in very severe cases, with great success in alleviating the pain and as a dressing until the sores were healed. I keep them constantly on hand. They are easy to procure in the marsh land or sloughs, their native habitat. Upon seeing a person whose clothing has taken fire lay them flat on the floor or ground, then take a rug, blanket or coat—something woolen—and wrap until the flames are extinguished. The flames are lessened immediately upon getting the person in a horizontal position.

Blue Grass, Ia. M. R. WAGGONER.

To Protect Oats from Rats.—Often it is desirable to stow sheaf oats in barn or stable loft to feed to stock. But depredations from rats often prevent this being done. I have found the following plan entirely satisfactory. Have oats well cured and pile with heads in, and on each layer of bundles apply a thin coating of fresh wood ashes; two bushels are sufficient for a load. There is no inconvenience in feeding, as the ashes readily fall off on moving.

Canto, N. C. C. H. REEVES.

Harrow for Cultivating Corn.—Take two pieces 4x4 inches 3½ feet long and make a V-shaped harrow. Make it 3 feet wide at the wide end. Place the teeth (⅝-inch harrow teeth) 7 inches apart. Set them with points forward a little, they will run much better. Put a cross-piece behind and put two uprights in it 18 inches high and 22 inches apart. Put an inch wooden rod from top of one upright to top of the other to put handles on. Put handles as on a shovel plow. One man and one horse can "lay by" 8 acres of corn per day. I think it is one of the best implements to lay corn by with, as it leaves the land level and makes a fine dust mulch and can be used when corn is too high for a cultivator. It also makes an elegant garden harrow.

Pleasant Valley, Va. J. M. PETRIE.

Fitting a New Handle to an Ax.—To remove the broken handle from the eye of the ax, plunge the blade of the ax into the ground; then build a fire over it. If you have other business, go and attend to it. In about an hour you will find the fire out, so is the wood from the ax eye. If you stay to see it burn out you may think it takes a good while. The above way does not draw the temper of the blade and you do not spoil auger bits and chisels.

Pentwater, Mich. S. E. RUSSELL.

Handy Way of Driving a Hog.—Make a loop in end of rope large enough to just fit over hog's head, and be sure to tie with a square knot. Put it on so knot will be on top of neck; then run the rope underneath hog just back of forelegs and bring up on the other side to top of shoulders and put underneath rope that went down on other side, which makes a half-hitch. Driver holds the other end in hand. Can hold a large hog this way without danger of spraining them. Used to hitch rope to hind leg and had lots of trouble, but this way you can drive a hog easily in any direction that you want to go.

Milford, Del. W. S. WATKINS.

A Serviceable Feed Pen can be constructed entirely of rails, and placed in the barnyard for the purpose of feeding fodder, hay and other feed in. All the feed will be consumed by having it, as the cattle cannot tramp it in the mud and otherwise waste it.

Inwood, W. Va. ELLSWORTH MISH.

Easy Way of Handling Barbed Wire.—Make crank as for a windlass; then cut a pole about 5 feet long and 2 inches thick. Flatten end so crank will slip on tight. Then with one wire torn off posts two men can easily wind wire on pole. When one strand is wound, put crank on another pole and repeat as before. Wire wound in this way is much easier handled than when wound on a barrel and without trash being wound up in it as when rolled on the ground.

Alto, Tenn. C. D. BASS.

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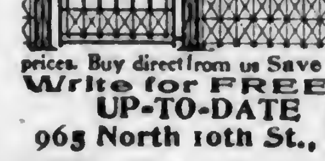

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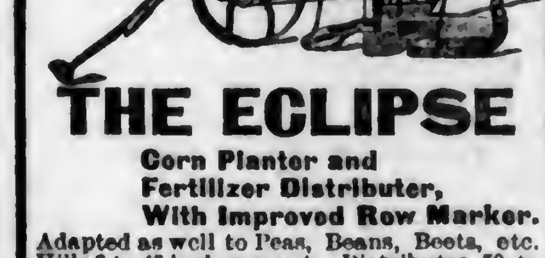

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Experience Pool—Concluded from Page 242.

week for a month or more I go over the flock and grease their heads and wing quills where they join the wings, to destroy lice. They need a great deal of care till they show the red on their heads, and then liberty and plenty to eat is all they need. I prefer the Bronze, but large, full-breasted hens of any breed mated to a sturdy tom not akin will produce fine birds. As fine as I ever saw were from Bronze hens and a White Holland tom. Every one of them would have passed for pure Bronze.

Nicholas Laignell, Federalsburg, Md.—Healthy hens and gobblers are important, and the gobbler not related to the hens, if possible. With young hens have an old gobbler, or a young gobbler if the hens are old. Early hatched turkeys are the best for breeding. I prefer the Bronze, as they are large and strong. If the hen steals a nest in the woods I remove her close by and give her 18 to 21 eggs, moving her at night and leaving her alone for a day or two closed up. As time comes for hatching I place the eggs a little while in luke-warm water to soften the shells. When hatched I remove the young as fast as dry, and when all are hatched put the hen and young in a dry coop with a floor in it and a small opening for young to run in and out in the sun. Keep the hen closed up for two or three weeks, and then after the dew is off let the flock out an hour or two daily. Do this till they are a month old, and feed them four or five times a day on cooked clabber, which just came to a boil and is drained and has onions chopped fine in it. Feed hard boiled eggs four or five times a week until two or three weeks old. Give fresh water at every feeding and sweet milk occasionally. Examine often for lice and rub fresh grease on them. I have lost turkeys that weighed two pounds, by lice.

Mrs. J. C. Beam, Orleans, N. C.—You will have more success if the turkey eggs are set under hens, as the young turkeys will not roam so far away. Leave them 48 hours after hatching, and then place in a dry coop and feed wheat bread soaked in sweet milk every two or three hours, a little at a time, for three days. Then put on a grass or clover plat and keep the hen confined. Keep up the feed three times a day till feathered, and never let them get wet in dew or rain. Grease their heads with meat drippings or the lice will kill them. We raised every one hatched last year. Select the breed you fancy and change toms every year.

Mrs. Frank Hammer, Cedar Falls, Iowa.—First, have good, healthy birds and well matured. Two-year-olds are better than one. Have males and females unrelated and allow eight or ten hens to a gobbler. I have plenty of brush and old barrels and boxes handy for nests and when they begin to lay I gather the eggs and keep them in a cool place till one of them wants to sit. I give her 15 eggs and at same time set one or two barnyard hens on turkey eggs, but give them all to the turkey to raise, as they do better than the hens. I keep the old hen up and let the young run till they can fly over the fence that is a foot high. Move the pens as often as the grass gets soiled. At first feed hard boiled eggs and bread in sour milk curd, and when a week old rolled oats two meals a day and bread and curd the other three meals. When six weeks old they can be fed on wheat, rolled and ground oats, corn and bran and barley. I am not successful with raw corn meal and use very little of it till the turkeys are large, and then never new corn. Have plenty of fresh water and shade in the heat of the day. An orchard nearby is an ideal place for them. When eight weeks old I feed but twice a day, the first in the early morning before they start to hunt bugs, and then again in the afternoon when they come home. I prefer the Mammoth Bronze.

Mrs. G. W. Shippy, R. R. 4, Lena, Ill.—Use one tom with six hens. Before they lay I put barrels and boxes handy. Do not disturb hen when on the nest but get the eggs when she is away. Put them where they will not get chilled, and when she sits give her 15 eggs. The first 24 hours leave the young in the nest. Powder hens and young with insect powder, and then let them go on the range. Feed regularly on boiled potatoes and milk curd, and as they get larger cracked corn and ground bone are added. I prefer the Mammoth Bronze.

Mrs. L. E. Kenagy, Hubbard, Ore.—I prefer the turkey hen to chicken hens for raising the young. They hover them better, they roam further and get more insects. I keep them at first in a grass lot with the grass mown short, till six or seven weeks old. Feed three times a day with bread crumbs and curd, and then mix wheat in the curd. When six weeks old turn them out and they are no more trouble except to give them wheat at night so they will come home to roost. A few week before Thanksgiving feed them all they will eat twice a day. I prefer the Bronze. Two years ago, with one tom and six hens, I raised 70 and sold them for over $84.

SUMMARY.

When we have a poultry topic we are sure to have plenty of letters, for the women folks turn in and help. As it was last week, so it is now. We have more than we can possibly use. It is so well known that the Editor is an ignoramus on poultry that he can hardly be expected to have anything to say on this subject. One of our friends has wonderful lice. He says "I have lost turkeys by lice that weighed two pounds apiece." We have taken the liberty to put the pounds on the turkeys and not on the lice. Sometimes a little slip of the pen makes us say something we did not mean. We raise no turkeys, and when we buy we prefer to get the wild ones of the forest, as they have more breast meat than the domesticated ones. Our tobacco growers find turkeys very useful to hunt the larvæ of the moths on tobacco, and we have seen 300 turkeys in one tobacco field. Some of the cotton men put geese in their cotton fields to eat the grass, but if the cotton is properly cultivated there will not be enough to keep a goose from starving. But the turkeys thrive wonderfully in the tobacco, and will go over it row by row as methodically as a field hand. The tobacco men can afford to raise turkeys if they sold none at all.

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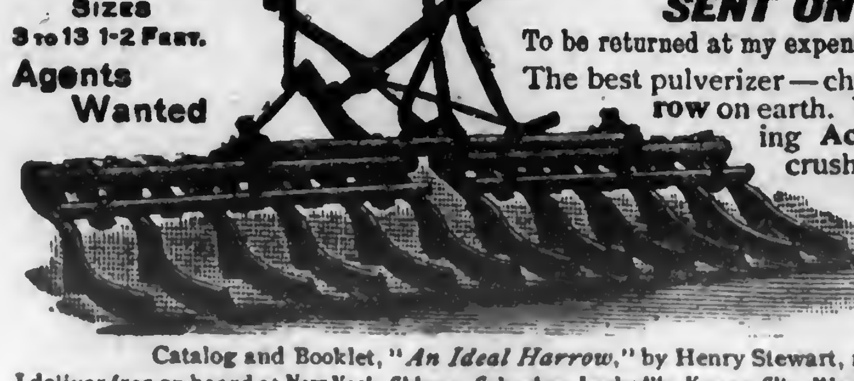

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Sure Way to Keep Tomatoes. — Do not go to the trouble and inconvenience of putting your canned tomatoes in dark places or in paper bags, as some people do, and after all your worrying perhaps lose them. Just select nice ripe tomatoes, wipe them off or wash them and pour boiling water over them to loosen the skin; peel, cut in quarters and core. Put a tablespoonful of sugar and a teaspoonful of salt to the half gallon of tomatoes, let come to a boil and can. It is all useless to boil and boil fruit; if it is thoroughly hot through and sealed air-tight, you will never lose a can. I always stand my jars on the lid until the fruit is cold. If no juice seeps out they are air-tight and sure to keep. If juice escapes I tap the lid gently all around with a knife handle.

Our Mistake with Kraut.—We made our supply of kraut last fall, using about 3 pints of salt to the 100 pounds of cabbage, and put it in the cellar to keep. It was warm in the cellar and our kraut got so sour we could hardly eat it. Finally we took it out and put in the summer kitchen where it would freeze, and it is now as good, brittle kraut as I ever ate. Keep your kraut in a cool place. ADA CARTER.
Goodletsville, Tenn.

[We did likewise and our kraut is a little too sour, though still eatable. Have taken it out of cellar and put in summer kitchen, but would be afraid to let it freeze, as it is in stoneware.—ED.]

Buying Fruit Trees.—A great deal of trouble could be avoided if people, in buying their fruit trees, would place their orders earlier. In this county orders calling for thousands of trees were placed last fall, but could not be filled on account of being too late. Those who knew of the shortage in peach trees and placed their orders with the nurseries early, received their trees in good time for fall planting. A mistake so many make is in buying second grade trees just because they are cheaper. It has been my experience that it pays to buy the best every time. T. S. BAIN.
Lincoln, Ark.

Mince Pies.—I wish to tell P. F. readers of my success in using pork instead of beef for mince pies. We take the spare ribs and cook until quite tender, then remove the bones and cut fine. Prepare twice as many apples as you have of meat, put all together and thin with cider, wine, or vinegar; put raisins, sugar and spice in to suit your taste. The pies are excellent and cannot be told from beef. We also have used some of the backbones and spare-ribs to make pressed pork, preparing it in the same manner as pressed chicken. After cutting in thin slices and arranging it on a dish with celery leaves, it looks more appetizing than in the form of bones. MRS. LLOYD LEINBACH.
Turbotville, Pa.

Clover for the Poultry.—At this time of year we must provide green food for our poultry. At night we take cut clover, put it on in a kettle, heat it hot and let stand till morning, then put in our grain, and there is real pleasure in watching the hens eat it. I feed warm mash to my poultry of mornings in winter. After baking beans you know how hard it is to clean the kettle? Well, just put your clover in and scald it and see how nicely your kettle will be cleaned. Also when you buy a new iron kettle, clean it with clover. MRS. GODFREY GILBERT.
Corinna, Me.

Peas a Failure.—I purchased a badly run-down farm last spring, and as I wanted some feed for this winter, decided to try peas. I had read a great deal about them making such fine hay, but had never had much experience with them. I had three plats of land that I wished to sow; two where wheat had frozen out, the other where corn had been the year before. I sowed by hand the first week in June, putting them in with disk harrow. They came up fairly well, but we had a very dry season and because of this or some other reason, they did not do well and were very short. I fertilized some of them, but could not detect much difference. Did not consider them worth cutting, but still do not consider that I have lost anything, as I believe the peas will more than pay for seed and cost of sowing, by improving the land. Some was sown to wheat and some will be put to corn and I shall expect better crops there than on other land. I expect to sow more next season, as I believe I can yet make a success of them.
Whittier, N. C. JOHN L. FERGUSON.

Hogs in the Orchard.—From my experience and observation I fear that Mr. Jas. Skelton has made a serious mistake by turning his hogs in the orchard, as stated in his article in the P. F. of Jan. 10th. It might be a good thing if he had too many orchards, as hogs will surely kill the trees by eating the bark and the small feeding roots from the large roots. They will kill the trees even with rings in their noses. Owing to this fact not one farm in ten in this vicinity has an orchard on it. As land began to increase in value the orchard and hog yard were made one, with success to the hog and destruction to the orchard. Landlords who have orchards on their farms stipulate in their leases that "no hogs shall be pastured in the orchard." Before apple trees die they bear heavily. It will make a tree bear to split the bark lengthwise of the body and large limbs, as the wood is deadened under the crease of the knife, and nature will respond by making the tree produce its kind before death. I am much interested in the P. F., and wish it success in every respect; in fact, it cannot help but succeed along the lines it is working.
Alden, Ill. O. R. SUMNER.

Economical Use of Meat. — An economical way of using meat is as follows: Boil for 2½ hours a piece of beef with a large onion, pepper and salt. Pare six good sized potatoes and add to the meat, which should be covered with broth. Now take one and a half pints of flour, heaping teaspoon baking powder, pinch of pepper and salt, and two tablespoons lard. Rub these in the flour, moistening with water to make a stiff dough, and drop with spoon in the pot, then cook 20 minutes. This is very nice warmed over. Should there still be some left, chop an onion with it, add pepper and salt and drop as croquettes, in hot fat, or make in cakes like sausage. M. H. BURNS.
Knoxville, Tenn.

Ashes and Hen Lice.—It is a long time since I visited Mistakes and Failures Column, so thought I would come again. I see so many inquiries about chicken lice that I will give my remedy. Instead of making straw nests I get boxes from the grocery, usually soap boxes, put in about 4 inches of wood ashes and sprinkle a little kerosene on them. So long as I use these nests the lice never trouble my hens. I renew them once in four weeks. When setting hens I put ashes and kerosene in the nests before putting in the eggs, and when the chicks come out and before putting them in the coop, I sprinkle the floor thickly with ashes, also give my chicks a teaspoonful of condition powder in their meal. I give them, too, a dish of water and some sand, and my chicks always turn out well.
Brockport, N. Y. MRS. WM. THOMPSON.

Making Porches Storm-Proof. — Where porches have been screened in with wire screens for summer use, they may be made storm-proof against sleet and snow by covering screen on the outside with unbleached muslin. Tear the muslin in strips the right length to reach from bottom to top of porch, sew the selvages together and tack on securely; also cover screen door, and you will have no snow or sleet to shovel off the porch. When this is done the outside doors of living rooms may be opened several minutes each day to let in fresh air without letting in wind and storm.
La Belle, Mo. MRS. G. W. MCRAE.

Temporary Solder. — Melt together equal parts of rosin and bees-wax and let cool in cakes or lumps. Use this to mend cracks in jugs, crocks or watering trough, also holes in tin buckets where no hot water is to be used. Heat an iron and use this as you would use solder.

Moles.—The best remedy to make moles leave your garden is to soak corn cobs in coal oil and place in their runs.

Cream Candy.—Take four pints granulated sugar, one and a half pints water, and one teaspoonful cream of tartar. Boil without stirring until it will drip from spoon and make a hair or fine thread, then put in a flat vessel and cool. A little of this poured over popcorn while hot will make fine balls.
Hettick, Ill. GEO. W. DUGGER.

Spare-Ribs in Snow.—I used to think that the best way to keep spare-ribs was to hang them up to freeze. But if kept very long in this way they would become so dried up that they were not very nice. I now pack them in clean snow in a box, putting snow between and all around the edges, which keeps the meat nice and fresh. A piece of fresh pork for greasing the pancake griddle will not make near the smoke that salt pork will. MRS. ALBURN MORSE.
Granville Summit, Pa.

Cure for Colds.—I send you two suggestions which have been invaluable to me. To cure a cold put as much gum camphor in an ounce of alcohol as it will dissolve. Melt a small teacupful of mutton tallow, take from the fire and pour alcohol and camphor in, stirring rapidly. Continue to beat for 15 to 20 minutes, then put in salve jar. For cold in the head warm slightly, grease nose and under eyes. It will invariably loosen and finally cure the worst cold by repeated applications.

To Remove Blood Stains.—Wet common lump starch and put on stain, let remain till perfectly dry and brush off, repeat until the spot disappears. I once tried this on a silk shirt front with perfect success, not a sign of the stain remaining.
McGaheysville, Va. MRS. E. HOPKINS.

Fruit Can Tops Gave Out.—A mistake I made when putting my fruit cans away after filling them for winter, was in covering them with old fertilizer sacks to protect from the cold. The acid in the sacks ate the tops in holes, ruining them and the fruit as well. Although the sacks had been washed they contained enough acid to ruin the metal tops. Had I seen this in the P. F. it would have saved my can tops and my fruit as well, so I write to warn others who are liable to make the same mistake.
Decherd, Tenn. MRS. P. FEATHERSTON.

Setting Strawberry Plants. — As the season for setting strawberry plants is near at hand, I trust a few words regarding the operation will not be amiss. We set plants all through the winter, whenever the ground will permit of working. Further North, however, this cannot be done. After the land has been thoroughly prepared we furrow 4 feet apart, then list two furrows on this and we are ready to plant. If we want to use fertilizer, we put it in before listing the two furrows on. We have two good setters provided with trowels. A small boy can do the dropping, being careful not to drop too far ahead so the plants will dry out before they are set. Always put your foot firmly beside the plant. JOHN LIGHTFOOT.
Sherman Heights, Tenn.

Keeping Sausage.—I wish to tell P. F. readers about the best way that I ever put up sausage. I season to suit the taste, then take small cloth sacks, pack the sausage in these and tie with good, strong strings. We then hang it up and smoke it when we smoke our meat, and it keeps just as nice and sweet as anyone could ask for.
Gentry, N. C. W. A. MCCOLLUM.

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BATH, ME., April 12, 1902.

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Situated in Eastern New York, 25 miles west of Albany, among Helderberg Hills. Mixed farming and dairy and sheep. Co-operative creameries being built and quite well supported. Highways will mostly be worked by tax system this year, with many petitions for State roads. We are in need of better railroad accommodations, as D. & H. is from 8 to 12 miles away. Good systems of water power along Beaver dam. Help is scarce on account of factories at Schenectady, as help is all allured that way. Wages are from $18 to $22 per month, with board. Produce commands fair prices: Rye, 60c.; potatoes, $1.50; apples, 75c. to $1.50 per bu.; hay, $10; straw, $8 to $10 per ton; oats, 40c.; buckwheat, 60c. per bu.; hardwood, $4 to $5 per cord; poultry in good demand; eggs, 14 to 16c. per doz.; butter, 20 to 24c. per lb. G. N. TOWNSEND.

W. Berne, N. Y., March 25, 1903.

Situated in Grayson Co., 10 miles west of Sherman, the county seat, on the T. C. P. R. R. We have good church and road facilities. Fine prospect for wheat and winter oats. Abundance of rain this winter; so much that little spring work has been done so far. Plenty of wood for the cutting. Land from $15 to $50 per acre and very fertile. Corn, 60c.; oats, 45c. per bu.; butter, 25 to 30c. per lb.; cows, $15 to $25 each; beef cattle, 3 to 3¼c.; hogs, 6¼ to 6¾c. per lb.; horses, $50 to $125; mules, $75 to $175 each; farm help, $14 to $16 per month. MRS. D. W. GLOVER.

Southmayde, Tex., March 20, 1903.

Located in north corner of Rockingham Co., bordering Merrimac and Strafford counties, 20 miles east of Concord, the State Capital; 24 miles northeast of Manchester, the largest city, and 17 miles west of Dover, the county seat of Strafford, and our best available market. No nearby railroad is our chief disadvantage. Promise of electric road in near future, which would benefit farmers materially. Snow came last Thanksgiving; sledding held till Feb. 28th, then warm winds and rain continuously. First year for a long time that we have had snow all winter. Last summer was so cold and wet almost no corn matured. Prices: Potatoes, 80c. per bu.; butter, 25c. per lb. the year around to customers in cities; wood, local, $3 to $4 per cord; has been $7 to $10 in cities; eggs, 30c. per doz. Nov., Dec. and Jan., to 18c. now; meal and corn, $1.35 per cwt.; has been $1.50 all winter; mixed feed, $1.45; gluten feed, in city, $1.35 per cwt. (not sold here); flour, $5 to $5.50 per bbl.; sugar, 17 and 18 lbs. for $1. Beautiful place in summer; city people come here. MRS. GEO. S. DAVIS.

Northwood, N. H., March 25, 1903.

Located near Abbotts Creek, in northeastern part of Davidson Co., at an altitude of about 1,000 feet, and within 15 miles of the thrifty manufacturing towns of Lexington, Thomasville, High Point, Kernersville and Winston-Salem, which gives us a fine market for all our surplus grain, fruit, truck, etc., at fair prices. Owing to high prices obtained for last year's tobacco crop, there will be an increased acreage planted the coming season. The weather has been warmer than usual, with a great deal of rain and no snow so far. Peach and plum trees are nearly ready to bloom. Wheat is looking extra fine. Farm work much behind, little plowing having been done. Farm hands scarce at 50 cents per day, with board. Hogs scarce and high; a 2-months-old pig is selling at $3 to $5; horses, $75 to $150 each, mules about the same; wheat, 95c.; corn, 65c.; oats, 60c.; peas, $1 to $1.25; beans, $1.50 to $2.25; Irish potatoes, 75c. to $1 per bu.; eggs, 15c. per doz.; butter, 20 to 25c.; dried apples, 5c. per lb.; cows, $20 to $40 each. Fair 4-month schools. Roads very poor in winter. Churches plentiful of various denominations. Terry and Massey make a fine team. J. R. OSBORNE.

Bethany, N. C., March 23, 1903.

This section is having entirely too much rain, and farm work is greatly delayed and but little plowing has been done, but we have plenty of time for crops yet if better weather is nearby us. Fruit trees are in bloom and vegetation is showing green all around. Fall-sown oats look well, having had a favorable winter, but only small acreage sown; good many planted lately in the wet and muddy ground. We have had a mild winter and soon will have plenty grass for stock. Supplies for man and beast are pretty high in price, but less than was expected considering the short crops here last year, and cotton is a better price now than for years past; nearly all of it is sold and in the hands of the speculators and manufacturers. I am answering many letters inquiring about this section and I think many homeseekers will visit this State in the near future. Plenty lands and farms here at cheap rates. D. A. SHAW.

Brandon, Miss., March 23, 1903.

Located in Franklin Co., Southern Illinois, near Benton, the county seat, where the I. C. R. R. and C. E. & J. R. R. cross. Will be two more railroads built next summer for hauling coal, as we are in the Big Muddy Valley coal belt; best coal field in the State. We have had three dry summers but farmers are prosperous. We grow fruits, vegetables and plenty of grain and feed; have free mail delivery, also 'phone service. Fruit growers are negotiating for best rates with the railroad companies for iced cars to Chicago. Prices: Land, $25 to $100 per acre; horses and mules, $75 to $100; cows, $25 to $50 each; fat hogs, $6.50; fat cattle, $4 to $6 per cwt.; sheep, $3 to $6 per head; corn and oats, 40c.; wheat, 70c.; Irish and sweet potatoes, 75c. per bu.; eggs, 20c. per doz.; butter, 20c. per lb.; farm hands, $13 to $15 and board per month; 75c. to $1 per day without board. W. L. ESTES.

Smothersville, Ill., March 23, 1903.

Located in San Diego Co., 35 miles northeast of San Diego, and 100 miles south of Los Angeles, is a small valley 7 miles long and 2½ miles wide; soil sandy loam and adobe with some alkali. Land, $200 per acre. Dairying the chief enterprise, though some apricots are raised. Two creameries, one at each end of the valley. Alfalfa grown for cows; Jerseys mostly. We believe in thoroughbreds in both cows and chickens. Individually, we have a truck garden; get good prices for everything; sweet potatoes a specialty. Butter, 33c. per lb.; eggs, 12 to 35c. during year; average 25c per doz.; hay, $12 per ton; wheat, $1.60; bran, $1.50 per cwt. Farmer's wives raise poultry; good prices; all over 2½ pounds, 13c.; under, 12c. per lb. Climate delightful. Settled mostly by Easterners. MRS. S. F. POTTS.

San Pasqual, Ca., March 19, 1903.

Located in the Flathead Valley, Northwestern Montana. Have had a mild winter. In some places the mercury did not get down to zero. Farm work will soon begin. Principal crops, average yields and present prices: Wheat, 28 bu., 65c. per bu.; oats, 60 bu., $1 per cwt.; timothy, 1½ tons, $12; potatoes, 200 bu., 50c. per cwt. These average yields are secured without irrigation. Apples, plums, cherries, strawberries and all bush fruits do exceedingly well. Butter, 25c. per lb.; eggs, 25c. per doz.; hogs, 8c. per lb., dressed; onions, $1.40 per cwt. Railway construction will employ several thousand men for two or three years, insuring high prices for farm products. Land, $5 to $60 per acre. O. H. BARNHILL.

Kallspell, Mont., March 19, 1903.

We are located in the northwestern part of Arkansas, on the Ozark and Cherokee Central Ry. We have had a very mild winter, with the exception of a very short while. Have had a large amount of rain, which has seriously hindered the farmers, who are just now beginning to plow. This is a splendid country for people of little means, as it is easy to make a good living here. We have very fine fruit, and such quantities of it. Mostly apples and peaches, but hundreds of acres of strawberries and a good many blackberries, and over a hundred acres going in here right away. We have plenty of good water, and good health; much oak timber, and can raise just about all that is needed to live well. Some fine fruit land can often be bought very cheap, and I don't think any of it exorbitant. Butter is 15c. per lb. and scarce; eggs, about 12c. per doz., and hens have just been 10c. per pound. IDA RICHARDS.

Prairie Grove, Ark., March 20, 1903.

Located in Franklin Co., Northwestern Massachusetts, 18 miles from Hoosac Tunnel. Climate very changeable. Farmers are trying to sugar some, but not a very good season. The roads will soon be settled. Farmers send cream to the factory. Prices: Butter, 30c.; beef, 4c.; pork, 7c. per lb.; apples, from 85c. to $1 per bbl.; cows, from $25 to $50; horses, from $40 to $200 each; eggs, 18c. per doz.; land sells from $3 to $20 per acre. Help is scarce out doors and in the house. MRS. J. BRAUN.

Spruce Corner, Mass., March 25, 1903.

Ft. Collins is the county seat of Larimer, a large county in North Central Colorado, and under the eastern shadow of the rugged Rockies, in a great alfalfa, sheep feeding and sugar beet district. Some winters as many as 300,000 lambs are fed in this neighborhood. They bring top prices in "river" and Chicago markets. Extensive and efficient irrigation system. Writer lives one-half mile south of first reservoir described in last U. S. Agricultural Report. Ft. Collins is a city of 5,000, a good home market; is on line of Colorado Southern; has fine schools and churches, State Agricultural College, mountain water from city-owned waterworks, electric lights, etc., but no saloons. A $1,000,000 beet sugar factory now building. Also new branch railway up Box Elder Valley. Grain, small fruits and vegetables do well; also apples in some localities; spring comes slowly in this high altitude (5,000 feet), and it is unusually tardy this year; 4 inches of snow now. Not much fall plowing, but hundreds of loads of manure hauled. Prices: Land, $2 to $200 per acre; horses, $75; cows, $35 each; wheat, $1.25; oats, $1.20; corn, 85c.; potatoes, 65c.; onions, 50c. per cwt.; alfalfa hay, $5 per ton, in stack; farm help, $20 to $30 per month with board. Girls scarce. F. H. HODGES.

Ft. Collins, Col., March 19, 1903.

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Iron Age Catalogue. — One of the familiar stand-bys of the gardener is the line of famous Iron Age garden tools. The manufacturers, the Bateman Mfg. Co., Box 101, Grenloch, N. J., have published a handsome catalogue of these tools, which should be read by every reader of the P. F. who handles a garden or farm tool. The difference between the 1903 models of the "Iron Age" implements and others made in 1836, when the "Iron Age" was first introduced, tells the advance in agricultural machinery made during those sixty-odd years. The line of goods described and illustrated in this latest catalogue is certainly a large one, including almost every tool needed in a garden and many that will find a place in the more extended operations of the farm. This catalogue will be sent free to every reader of the P. F. who mentions the P. F. when writing.

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AGRICULTURAL.

SPECIAL NOTE.— Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

How to Grow Fodder Corn.

H. Armstrong, Belleville, O., wants to know how to grow fodder corn. First, sow it in drills, about three and a half feet apart, so you can cultivate it, the same as you would any other corn. It certainly is a mistake to sow it broadcast, as one loses the decided benefit that comes from cultivation. The use of weeder and cultivator will pretty much destroy all weeds and will help save water from being evaporated directly out of the soil, and thus lost to the crop. It will also let the air into the soil, which makes the crop grow faster, and makes more plant food available for the crop. Never lose all these chances to benefit your crop by sowing it broadcast. One can sow with a corn drill, or with a grain drill, by stopping up part of the feed holes, so as to make the rows come right. Of course, in a small way it can be dropped by hand. And now comes a question that it is not so easy to answer, how much seed shall one use per acre? The Experiment Stations have shown that corn should not be sown so thickly that the sun cannot get down in among the plants. It is a sun plant. When three or four bushels of seed are sown broadcast the growth is so thick that the foliage is mostly yellow, except on top, and the feeding value of the crop is certainly not very great. The corn plants can hardly do their best with more than about one stalk every foot in the drill. One will probably get the most feed value, grain and stalk, per acre, with the corn about this thin. But fodder corn is used for different purposes. Sheep feeders want it finer than it would be when sown so thinly. The sheep eat it better. So they use considerable seed, making the plants quite thick in the drill. If growing it for other stock I should not sow it so thickly, and particularly when it is to be run through a cutter before feeding. It is not so necessary then to have the stalks fine. One can come nearer to growing the best quality of corn. As to the time of sowing one need not be in a hurry, unless he wants a full crop of grain and corn. In Minnesota they think it better to sow moderately late; that the more rapid growth of fodder, where ears are not cared for, starting after ground is warm and weather hot, makes more nutritious feed. Fodder corn can be cut by hand, but it is slow work, very slow. Years ago the writer had a heavy piece, drilled in. An old hand at cutting corn thought my man wasn't doing anything when he was cutting the crop; blowed considerably about what he could do in there. I hired him to cut an acre for $1.50, just to teach him something. He began early and worked late and hard, and only earned about $1. Poor man, he found that two stalks, where he had been in the habit of cutting one, and stalks just about as large, too, made a difference. In Ohio and west now the corn harvester is largely used for cutting and binding fodder corn. However it is cut it should be set up with a good deal of care, so it will stand and shed rain well. In a wet climate, or wet fall, it may be well to set it up in small shocks at first, later putting several of these together and binding them well. Where they are likely to get frozen down in winter, or be largely covered with snow, growers usually draw the corn fodder near where they want to feed, before cold weather sets in to stay, and put it up in small stacks of two or three loads each. It can be put in barns, or sheds, of course, and will keep better than out of doors, if it is dry enough. Beware of laying fodder corn down and putting any quantity together in a building. Ordinarily it has so much water left in the stalks that it will heat, even to burning up. This is one of the things the writer learned by costly experience. A lot of splendid feed was totally ruined and it is a wonder the barn did not burn. If the corn is reasonably dry it will keep all right when the bundles stand up in the barn. I have put in many loads in this way, in the fall, and kept the fodder as nice and green as need be. I would set the butts of bundles as close as possible. After a little the tops would slant back anyway. Then sometimes I put some bundles in tops down. And after a time put a pole across and started again, the bundles being stood against that to start. This in long sheds (overhead) that were some 15 feet across. Where one is likely to be short of hay a few acres of fodder corn may help him out considerably. I remember a little experience in cultivating fodder corn that taught me a valuable lesson. The corn was perhaps 7 feet high, planted in drills. I sent a man to cultivate it. For some reason, that I do not remember now, he cultivated half of the piece and stopped. That was the last work done on it. It was where one could see the rows, lengthwise of them, from the road. Before long the part that was not cultivated stood fully a foot higher than what the man went over, and the cultivated part never made up the loss. My man said that cultivation hurt the corn, he knew it would so late in the season. I said nothing. This was some thirty years ago, and I did not understand the matter. In due time, however, it was studied out. The corn had been left uncultivated for some time and the man let the teeth go deeply and tore off perhaps half of the roots. Work kept up frequently, only about one and a half inches deep, would have made the cultivated part go ahead of the part that was left. How dangerously near I came to being led into a serious error. How natural to have decided that late cultivation injured crops. This would have prevented my making thousands of dollars in the following years by preventing late, shallow cultivation.

How to Build a Durable Silo.— Wooden Hoops for a Silo. — Henry Fisher, Ronks, Pa., has a stone barn and thinks of building a brick silo against the gable end, using end of barn as one side of a square silo. He wants to use bricks because the wooden silos rot out so soon, he says. Now, my friend, I appreciate your wanting to build something that will last. We are alike about this. I like to do a thing well, once for all, as far as practicable. But I cannot advise a brick silo for you. It would be difficult to tie it to your stone wall, air-tight; that is, only building three sides of silo. It would have to be very strong to stand the pressure. It would be safer to build a round silo, if bricks are to be used. But I would not use them. I feel sure you can do better. Make a good foundation and build an eight square silo on it, of wood, using 2x8 girts around it, spiked well at corners. Board up and down cheaply inside; then furrow out with laths and lath and plaster with Portland cement. A good mason, with pure, sharp sand, can make the inside practically one stone. How can it rot then? Silage will keep as well as in a round silo, practically. The building can be made cheaply, all but the mason work. Board up and down outside, as you would a barn. Paint it, and you have something that can't rot out. You can put on a cheap, flat roof that can be removed for filling, or a nice tower roof with door in it for filling. Some of the best silos I ever saw are in your State, and built eight square. Good inch flooring used inside and filled with some preservative would probably last a lifetime, without cementing. If you use Georgia pine, that is, hard pine, flooring, a preservative would not be needed. Pitch pine ought to last a long time. Fasten the silo securely to your barn. There is a new feature in tub silos introduced lately. John Gould, the well-known dairy lecturer and writer, advised at Minnesota Institutes, the using of wooden hoops instead of iron ones. These are made of ½-inch elm lumber, say (or some other kind that bends easily), 6 inches wide, using five thicknesses at bottom and four at top. Make all hoops first, breaking joints in the boards. Mark out circle on barn floor, nail on blocks about two feet apart, bend one board around, then another, and so on, nailing them together. Place hoops one above another in a pile, raise them, tacking them to 4-stay scantlings on outside. Then board up and down inside with Georgia pine flooring, nailing to hoops. Break joints on hoops. Board up and down on outside. It will take about the same lumber as a tub silo, but it will cost more, of course. The advantages given by Mr. Gould are that it is solid, won't fall down when it dries out in summer, and that hoops cost less and you have an air-space to keep out frost. Mr. Gould says, in summer iron hoops stretch and the lumber of tub silo shrinks; the seasoned wooden hoops, covered, will not stretch any, and the flooring being narrow and nailed to hoops, will not open any cracks. Then one has no tightening of hoops, or falling down of silo when empty. This seems all right but is a new thing as yet.

Health Hints.—The Object of Them.—Causes of Ill Health and Cure. — A large number of letters about health matters have accumulated during the winter. As we have many new readers allow me to explain right now about these "hints." As a rule, disease, particularly chronic troubles, is a result of violating some of nature's laws. Disease is not something we are liable to catch, whether or no, if exposed, and which we can take some medicine and cure. Sickness is often nature's effort to cure and establish proper normal conditions in the body once more. If you wish you can also look on it as a penalty for natural laws that have been violated, just as your finger will be burned when you put it in the fire. A large part of the sickness in the world is brought on by overeating, eating improper food or eating too fast; that is, not chewing the food long enough. Lack of sufficient exercise to work off the waste of system is another cause of ill health, and so is the breathing of impure indoor air, and shutting out of the light of day and the sunshine from our homes. Worry may cause poor health and so may overwork. And there are other causes; these are simply the leading ones. Gradually the general health may be undermined in some of the above ways. Then you may catch some infectious, or contagious, disease, or ill health of some particular kind may gradually come on. There are various germs about seeking proper feeding ground, and if you have made your lungs weak, or your throat, or bowels, you may have a case of consumption or pneumonia, diphtheria or typhoid fever. This is right in accordance with nature's established law of survival of the strong, death to the weak. You can look at it this way, or as a penalty for laws violated. The fact remains the same. Now before the matter of ill health has gone too far, if you want to recover you have only to remove the cause. Nature will then gradually re-establish normal, healthy conditions. No doctor or medicine on earth can do this. Nature cures, if it is ever done. A good physician can assist often, in acute cases he is invaluable, but the best doctors in this world today depend on placing their patients in the best sanitary condition and give almost no medicine. With those who think medicines cure they may give some colored water and bread pills. If the patients do not know what nature, with pure air, sunshine, proper diet, exercise, etc., can do, the doctor does, but it is necessary to give you something to pin your faith to strongly. Notice I say the best doctors, not the more ignorant ones. How do I know this? They have told me. And they have never objected to my publishing the facts, withholding their names, of course, so as not to injure their business.

Now, the object of these "hints" is to talk over the various violations of natural laws that may bring ill health in time. Attention to the same matters will bring back health, if there is any chance for it; and there most always is. Just remove the cause of your trouble and live properly and gradually nature will fix you up. But you are in a hurry; you intend to take some medicine and get well quickly. Yes, but unless you remove the cause the cure will never be complete. You can keep the consuming fire smothered for a time, but when the causes are removed and nature builds you up the cure is radical and perfect. Many busy people are almost entirely ignorant of the simplest laws of health. The writer hopes to benefit them by talking over such matters plainly from time to time. Eustace Miles, M. A., the English authority, says, "Already laymen write successfully about diet and health, because they have tried and know." That is exactly why I feel impelled to write. I have tried nearly everything advertised and know, not tried for a few days, but for years. Thus I realize as some could not, the importance of some of the matters treated on. Now remember, please, that I am not a physician, only a layman. I want to help you keep well, or to cure yourself if you are in ill health, by making the sanitary conditions connected with your life better. If you employ a physician this will help him, too. But I will dare to tell you what he will not, because I am doing it without any pay, while he depends on what he can make out of your ill health for a living. Individual cases cannot be taken up in these "hints," except in a general way; nor can they be treated privately. Work out your own salvation. I will help by giving general principles. You must study and think and fit them to your individuality. This is just the way the writer has built up his own health. I will get around to discuss the various matters that letters call for as fast as possible. Let me close with an extract from a letter written by J. F. Kennedy, Cadiz, O.: "I have followed the teachings of your 'Health Hints' a long time, with great results as to health and comfort. I have not had a sick day since I began following your instructions." My dear friends, I want you all to live long and happily, free from ill health. This is what the writer is studying to do himself. As he gets light on different matters he is glad to share it with all his friends.

T. B. Terry.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Egyptian Clover. — M. A. Dunlap, Academy, W. Va.—"I have seen the article in the Kansas City Star to which you refer in the P. F. regarding Egyptian clover. I think it may be the very thing we want more than anything else, an annual clover, which can be sown in the spring and cut or grazed the same season and thus avoid injury from winter freezing and spring frost. There are thousands of farmers for whom clover has failed and who are too far South for Canada peas, and too far North for cow peas. I asked this question some time since and you said that the Medium Early soy bean might do. Another farmer asks you practically the same question and you advise him to try crimson clover. I have tried it more than once here and it has always failed, though all right when sown as a biennial. I had thought of trying red clover as an annual, but fear that in this high altitude it would be so late as to make it impossible to cure it, and if Egyptian clover is a true annual it will go far towards solving a knotty problem." The Egyptian clover and the crimson clover are identical so far as we can see, except that one is more tender than the other, and has flesh-colored flowers instead of red. Both of them are annuals. Crimson clover, no matter when sown, will make its full growth inside of a year, and a plant does not become a biennial because it can be sown in one fall and ripen the following spring. There is just as much chance, and we think more, for the crimson clover to do well sown in the spring, as there is for the Egyptian. But why seek the merely annual summer growth in your short season? There is no reason, we believe, that cannot be overcome, why common red clover should not do well with you. A little lime often works wonders in helping the growth of clover. Then, too, if crimson clover succeeds sown the previous summer, why not use it? Red clover sown in the spring would not make growth enough to cut that season, but of course would the following year, and if you can get a stand of red clover what better do you need? I have known crimson clover sown in North Carolina in early spring and gave two mowings that summer, the first one being made just as bloom showed. In your elevated region and cool nights the crimson clover will do as well as anything else you can sow in the spring, and far better than the tender Egyptian. Canada peas should do with you, sown as early as it is practicable to do in spring.

Draining Low Ground.—W. M. Parker, Martinsville, Va.—"I wish advice in regard to draining a bottom of 20 acres second drawing below the bottom. There are 50 acres in all. Part next to creek sandy, and part in swamp is black soil inclined to clay when partly dry. Sand starts at creek and runs back 500 feet, extending full length of bottom, with large trees from one end to the other. Land seems lower at hill than at creek and is mirey at some seasons. Would cutting down the bank be of any help? I have been reading the P. F. for a year and think it a valuable paper for every farmer." From what you say, the sand has evidently been fed up from overflows of the creek, and the land is probably really lower next the high land. The first step in the drainage of land so situated will be to cut off the spring water from the high ground, which is probably what keeps the land wet next to the bank. We would cut a good open ditch all along the foot of the upland to catch the spring water from the hill, running it perhaps into the creek at the lower end. Then cut ditches perpendicular to this from the creek back to the main ditch, and make these underdrains either with poles or plank boxes or tiles, all draining into the main ditch and from the creek. If these blind ditches are placed close enough they should lower the water table in the soil very materially, and the spring water from the upland being cut off they ought to drain the land, if we understand the situation aright. This is about all the suggestion we can make without a more accurate knowledge of the land.

Crop Rotation.—J. W. Gregg, Baltimore, Md.—"On a dairy farm where nearly all of the feed is fed in the stable, and consequently very little pasturing done, are there any serious objections to a three year rotation of crops, as follows: Corn one year, wheat one year and grass one year? There is manure enough produced to cover the corn land each year. The land is a clay loam and is slightly rolling." The only possible objection to a three year rotation under such conditions is that manuring the land every three years with stable manure would tend to the production of too rank a growth of straw in the wheat, and consequent lodging. It would be an improvement, we think, to lengthen the rotation somewhat and to follow the corn with oats, and the oats with cow peas for hay, and then put the wheat on the pea stubble with some acid phosphate and potash. Then follow with one year in clover and then back to the manured sod in corn. The oats would reduce the excess of nitrogenous manure somewhat, while the pea stubble would furnish plenty for the wheat crop, and the acid phosphate and potash would insure a stand of clover. Or, if it is desirable to run the three year rotation, use the manure on the clover in the spring instead of on the corn, and depend on the sod alone for the corn. This would give you a heavier crop of forage from the clover and the corn would have the buried manure largely brought up where it would still make the wheat crop without an excess of nitrogenous matter.

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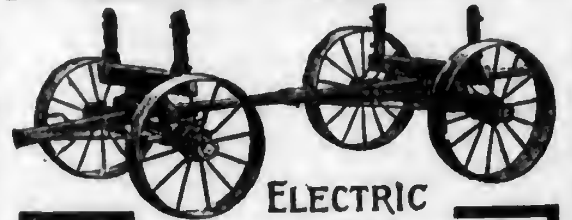

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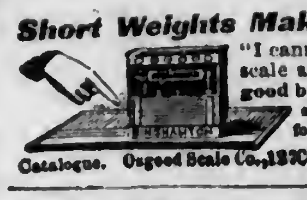

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That saves you the dealer's profit. It's all interwoven, no loose ends to unravel, ruining fence. Cross wires can't slip. Our prices are as low as can be made for a good fence. Your name and address on a postal card will bring circulars and special prices. Write at once.
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STOVER MFG. CO.
FREEPORT ILL.

Samson Windmill Stronger than The Storms
WHEN YOU BUY A WINDMILL
You buy it for a long time and your money entitles you to the best. No other piece of machinery has as much constant wear. The mill that stands the weather—fair and foul—365 days and nights in the year must be built right or go to pieces. Better buy right once than wrong many times. Our
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is the result of years of study and the expenditure of large sums of money, which have produced a perfect mill. The **Samson** is the very acme of windmill construction. All others are merely windmills; the **Samson** is more than a windmill—it is a wind *machine* built on scientific principles that place it far and away ahead of all others.
Among its many **strong features** found on no other mill, stands most prominently its **double gear**, which in reality is two sets of gears or two pinions and two spur gears engaging each other, and making two trains to transmit the power of the wheel to the pump. This feature is the most valuable one ever incorporated in a windmill. With its four bearings, in place of one, the strain of the load is distributed to four points, giving the very minimum of friction, resistance and wear, and the maximum of power and endurance and doing away with all overhanging strain. This double gearing and its bearings retain their rigidity and tightness under all conditions. The **Samson** has five times the strength of any other windmill using a like amount of material and at the same time is the lightest running of any on the market. Other points of superiority are many, among them durability, high-grade material, skilled workmanship on all parts, easiness of running in slightest breeze, detachable boxings, perfect brake and governor, double pump rod and guide, wick feed oilers, etc. You should know more about the **Samson**. We tell the story in a beautifully **illustrated booklet** that has cost us thousands of dollars to print. It is yours for the asking. Write today. You will be glad if you do.
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That Tired Feeling
Is a Common Spring Trouble.
It's a sign that the blood is deficient in vitality, just as pimples and other eruptions are signs that the blood is impure.
It's a warning, too, which only the hazardous fail to heed.
Hood's Sarsaparilla and Pills
Remove it, give new life, new courage, strength and animation.
They cleanse the blood and clear the complexion.
Accept no substitute.
Hood's Sarsaparilla promises to cure and keeps the promise.

Bermuda Grass and Corn in Lower South Carolina. — Benton Bros., Beaufort, S. C.—"Will an early variety of white field corn sell all right and yield better than sugar corn? I have 30 or 40 acres of old sod thick with Bermuda grass. Can I treat this so as to make more and better hay without breaking it up and sowing in peas?" For your section there is no early sugar corn worth planting. A variety known as Adam's Extra Early is a small-eared, early, dent corn, which sells very well until the larger sugar corn gets in the market. You can very materially increase the amount of hay on the old Bermuda sod by cutting it with a cutting coulter; that is, merely slicing it each way. Then give it a dressing of about 100 pounds per acre of nitrate of soda, and you will probably very materially increase the yield of hay. We think, however, that if you will put in a strong team and a good plow, and plow it thoroughly and harrow it before the warm weather sets in and then apply the nitrate of soda, you will get a still greater increase.

Wind Break. — Chas. K. Brooks, St. Charles, Ill. — "What can I plant to make a wind break in the shortest time? I have seen my father cut willow limbs about two or three feet long and plant them. I do not remember how the limbs were planted, nor when, nor how the ground was prepared, but see the result today in a good thicket. Soil three feet deep and black, clay subsoil." The most rapid growing trees are those of the poplar and willow families, but the ordinary cottonwood grows more erect and fully as rapidly as the willow, and will grow rapidly from cuttings. The line for the proposed wind break should be well prepared and the cuttings made a foot or more long and set in the ground by a line, before growth begins in the spring. Then if you will go to the further expense of buying young trees of Norway spruce and setting them about four or five feet apart, ten feet on the sunny side of where you plant the cottonwoods or willows, you will have, in time, a much better wind break than the willows or cottonwoods will make, and they will be giving you the shelter while the Norway spruce is growing. You can buy the young plants of Norway spruce by the thousand at very low figures, from Illinois nurseries.

Farming in North Carolina.—S. H. Rogers, Creedmore, N. C.— " have some sandy soil with yellow clay subsoil and red clay below this, which I want to get into permanent pasture. It had crimson clover sown on it in fall of 1900, followed by cow peas the next summer, and last summer was in corn. I have been thinking of breaking the land deeply, broadcasting a coat of stable manure planting to corn again, cut corn as soon as glazed and prepare the land for the grass seeds you advise. I have two other lots of similar soil which grew in weeds last year, which I wish to put in tobacco. The reason the land was in weeds last year is that tobacco growers think they can raise a finer tobacco on land that rested than they can after cow peas. Tobacco will be cut during the early part of August; and I want to sow these two lots to alfalfa, if you think it can be raised successfully here. I am a young man, and have been farming but a few years, but by the teachings of the P. F. I am trying to get out of the ruts. Please give me your advice in regard to these matters and also say if it is advisable to plant seed corn here which was grown in the North or West." We always like to get hold of a young farmer who is thinking and improving. Now in regard to the permanent pasture. While the coat of manure on the lot will enable you probably to grow a good crop of corn, we believe a good crop of cow pea hay will pay about as well, and will enable you to get the land into grass in better shape than among a lot of corn butts. Then to get it all in would necessitate the hauling of the corn off the land and shocking it elsewhere, which is pretty heavy work. We would put the land in peas and cut them for hay and then work the land over and over again with the cutaway harrow till perfectly fine before sowing the grass seed. Do not be in too great a hurry to sow them. You are apt to have very dry weather and hot suns in September and October and it will be far better to keep the land stirred and fined and not sow the seed till November or late in October, when the season may favor a germination. Sow 10 pounds of orchard grass, 5 pounds of red top, and 10 pounds of English blue grass (Poa Compressa) per acre, and then scatter 5 pounds of white clover after the grass seeds are sown, and harrow lightly with a smoothing harrow. Now as to the tobacco crop. Do you think that the land "rested" any more by the growing of a crop of weeds than it would have done in growing a crop of peas that would have brought nitrogen from the air and stored it in the soil? In fact, is it not more tired, if such a thing could be? The old notion that the soil is something like an animal that gets tired and needs rest, is one of the old ruts that you should be getting out of. If you use on land after a crop of peas has been grown on it the same amount and quality of fertilizer you would use on land not thus helped you may get so much nitrogen as to make a heavier and coarser leaf. But if you take into consideration that the peas have left in the land as much nitrogen per acre as you would get in a ton of tobacco fertilizer it is easy to see that you do not need to use as much nitrogen there as you do on a piece that "rested" by growing foul weeds and gaining nothing. Your gray soil with the yellow right below should make a fine soil for alfalfa, and there is nothing that will help the alfalfa more than a manuring with tobacco stems. Put the land in good order, use not less than 20 pounds of seed per acre, harrow it lightly and roll. Sow as soon as possible after the tobacco is off. Late August is better than September. Seed corn from another climate will have to get acclimated, and will not at first do as well in your climate. Better breed up and improve the corn you have.

Irish Potatoes in Tennessee.—S. E. Lamb, Greenville, Tenn.—"I have some good clay loam soil on low ground which I wish to plant in Irish potatoes. How shall I prepare the land? How many bushels will be needed per acre? When shall I plant? How shall I cultivate them? How shall I store them to keep in winter and what kind shall I plant?" A crop of potatoes planted in your climate in the spring cannot be kept with any success in winter. If you want the potatoes for late use you will have to plant later. The best plan which we can suggest will be to put the land in thorough order by plowing, and keep it clean until the time to plant the potatoes, which should not be until the middle of June, if you propose to have them for winter. It will require from nine to ten bushels per acre, if cut in the usual way. The furrows should be made about three feet apart, and if the land is not very strong a dressing of 400 or 500 pounds of high grade fertilizer should be used in the furrows. Then cultivate them perfectly flat during the hot weather and if it should get very dry keep stirring the soil and never allow a crust to form upon it. The best potato, probably, for your section, for late use, is the variety known as the Lookout Mountain. You can get seed of this probably in Chattanooga or Knoxville, and if you write to Prof. A. M. Soule, Director of the Tennessee Experiment Station, he can probably tell you where to get the potatoes. For keeping in winter bury in heaps covered with straw and then with earth.

Bugs in Hotbed. — W. N. Ivans, Neches, Texas.—"Please give a remedy that will kill bugs or mites in a hotbed. I have tried lamp oil and it did not destroy them, but played havoc with the plants." Without knowing what kind of insects you have in your hotbed it is hard to suggest a remedy, and any insect which kerosene will not kill is a tough customer. It is probable that the bugs are aphides. If so, a strong tea made of tobacco sprinkled over them will be as good as anything you can use.

300 pounds
per acre more Wheat, Oats, Rye or Barley may be raised for each 100 pounds of
NITRATE OF SODA
used as a Top Dressing on the soil. Frequent trials at Agricultural Experiment Stations the world over fully prove this to be so.
Your address on a Post Card will bring you our *free* Bulletin "Practical Hints for the Profitable Application of Nitrate of Soda as a Fertilizer," and others full of interest to farmers.
WILLIAM S. MYERS, Director,
12 John Street, New York.

ARE YOUR KIDNEYS WEAK?
Thousands of Women Have Kidney Trouble and Never Suspect It.

MRS. SCOTT.
An interesting letter to our readers from Mrs. Gertrude Warner Scott, of Vinton, Iowa.
Vinton, Iowa, July 15th, 1902.
In the summer of 1893, I was taken violently ill. My trouble began with pain in my stomach, so severe that it seemed as if knives were cutting me. I was treated by two of the best physicians in the county, and consulted another. *None of them suspected that the cause of my trouble was kidney disease.* They all told me that I had cancer of the stomach, and would die. I grew so weak that I could not walk any more than a child a month old, and I only weighed sixty pounds. One day my brother saw in a paper an advertisement of Dr. Kilmer's Swamp-Root, the great kidney, liver and bladder remedy. He bought me a bottle at our drug store and I took it. My family could see a change in me, for the better, so they obtained more, and I continued the use of Swamp-Root regularly. I was so weak and run down that it took considerable to build me up again. I am now well, thanks to Dr. Kilmer's Swamp-Root, and weigh 148 pounds, and am keeping house for my husband and brother, on a farm. Swamp-Root cured me after the doctors had failed to do me a particle of good.
Gratefully yours,
Gertrude Warner Scott
The mild and prompt effect of Dr. Kilmer's Swamp-Root, the great kidney, liver and bladder remedy, is soon realized. It stands the highest for its wonderful cures of the most distressing cases. Recommended and taken by physicians, used in hospitals and endorsed by people of prominence everywhere. To prove what Swamp-Root will do for you a sample bottle will be sent absolutely free by mail, also a book telling all about Swamp-Root and its wonderful cures. Address Dr. Kilmer & Co., Binghamton, N. Y., and be sure to mention reading this generous offer in The Philadelphia Practical Farmer.
If you are already convinced that Swamp-Root is what you need, you can purchase the regular fifty-cent and one-dollar size bottles, at the drug stores everywhere. Don't make any mistake, but remember the name, Swamp-Root, Dr. Kilmer's Swamp-Root, and the address, Binghamton, N. Y., on every bottle.

LANTERNS. The kind that turns night into day and are marked Dietz. Free catalogue.
R. E. Deitz Company, 85 Laight St., New York.

Insist on getting The Buckskin Brand made of real rubber.
MONARCH RUBBER COMPANY,
St. Louis, Mo.

The Old Fashioned Paint that never chalked, cracked or peeled was made from pure White Lead mixed with pure Linseed Oil.
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STARK TREES best by Test—78 Years
LARGEST Nursery.
FRUIT BOOK free. We WANT MORE SALESMEN PAY CASH Weekly
STARK BROS, Louisiana, Mo.; Dansville, N. Y.; Etc

750,000 TREES
Specialties: Apple, 16c; Peach, 12c; Cherry, 15c. Small fruit plants, Roses, vines. 100-page catalogue free. 2 New Red Cross currants 10c. Secrets of Fruit Growing, 150 photos, 10c. Copy Green's Fruit Grower free. Good salary paid for work at home.
GREEN'S NURSERY CO., Rochester, N. Y.

IT MAKES COWS BREED.
BOOK FREE.
MOORE BROS.
Veterinary Surgeons.
ALBANY, NEW YORK.

"STUCK UP"
Corn rows that are stuck up against a hillside cannot be cultivated with the ordinary cultivator. That is just where the
KRAUS PIVOT AXLE CULTIVATOR
is at home. The pivot-axle which controls the **entire machine**, enables it to go against the hillside with a "gather." That keeps it up to the work and parallel with the row. Works equally well on the level. Wheels and shovels simultaneously moved sideways by the foot levers. Adjustable in width. Center lever spreads or closes the gangs. 4, 6 or 8 shovels. **Pin or Spring Hoe or Spring Tooth.** Simplest in construction and easiest working cultivator made. Accept no substitute. Insist on getting the KRAUS. No other "just as good." If your dealer does not handle it, write us.
THE AKRON CULTIVATOR CO., DEPT. E, AKRON, OHIO.

Sows or Drills
Stevens Fertilizer Sower
Sows broadcast or drills 200 to 4000 lbs per acre. Spreads to width of 5 feet and 10 inches.
All Commercial Fertilizers in all conditions handled equally well. Work is uniform. Machine is low and easy to load.
Broad Tired Wheels Make Light Draft
and avoid rutting fields. Shafts or tongue for one or two horses. Quick adjustment for drilling or broadcasting, fast or slow spreading. Soon makes cost in saving fertilizer. Free circ. and testimonials.
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DON'T WASTE TIME REPAIRING A POOR MOWER
AN IMPORTANT CONSIDERATION IN A HARVESTING MACHINE IS ITS LASTING QUALITY
YOU ARE SURE TO GET THIS WHEN YOU BUY A
CHAMPION BINDER MOWER & RAKE
YOU also will have machines suitable for every condition of the harvest field. The Champions have improvements which lighten the work and increase the effective life of the machine.
A catalog describing them and handsome colored calendar will be sent free on request to
CHAMPION DIVISION, INTERNATIONAL HARVESTER COMPANY OF AMERICA, CHICAGO.

Live Stock and Dairy.

If stock breeders who have live stock to sell will use the columns of the P. F. they will be surprised at the results. A 4-line stock advertisement inserted one year will cost $37.44, only $9.36 per quarter, and will keep your business in a healthy and profitable condition

Stock Queries.

Loss of Weight in Curing Bacon.—About what per cent. shrinkage in dressed hogs is there when made into bacon? Say a hog dressed 200 pounds, how much bacon would it make? H. F. McCLAY.
Gardiner, Ore.

(Reply by H. Stewart.)

The loss in curing the fresh meat of swine into bacon, varies considerably, as the character of the meat differs. Lean meat will lose more weight than fat meat will, for the reason that the lean loses more of its moisture than the fat does. We cannot do better than give these two examples given by F. D. Coburn in his very interesting book on swine husbandry, and add to them the remark that they are in precise accord with our own experience. A Chester White hog, when dressed, weighed as follows: Hams, 116 lbs.; shoulders, 140 lbs.; sides, 81 lbs.; cheeks, 16½ lbs.; total, 353½ lbs. The weight of the cured meat, showing the loss of weight in the curing, is as follows: Hams, 106 lbs.; shoulders, 130 lbs.; sides, 75 lbs.; jowl, 15 lbs.; total, 326 lbs. It appears that the shrinkage in the curing is proportionately greater in young pork than in the older animal, as this instance, being one of many, shows. For a pig of five months old, dressed, made 111 lbs. of marketable meat, when it was put into the salt tub. After it was smoked the bacon weighed 95 lbs. But against this loss of weight should be put the increased value of the cured meats, which in this last instance was equal to an average of 11½ cents a pound, while the whole pork was worth only 7 cents a pound. This difference made a profit of $2.43 for the curing. We learn from these instances, which are typical, that the loss in weight in curing is from 8 per cent. in full grown hogs, to 15 per cent. in young pigs. This is in accord with reason.

Butter Coming.—In the P. F. of January 24th John J. Haas and A. H. M. ask why the "butter does not come," etc. My experience has been, in like cases, that no kind of rations fed to the cows will help, neither has temperature anything to do with it. But I found that bringing the milk to the scalding point as soon as drawn, setting it to gather cream as usual, will bring the answer. The butter will be as good as if the milk was not scalded. The milk of cows soon to be fresh should not be mixed with other milk or it may spoil all.
Shepherdstown, Pa. L. E. B.

(Reply by H. Stewart.)

It is quite true that if the milk is scalded, that is, the pans are set on a hot stove until a scum is formed on the surface, and this "crinkles," as it is termed, the cream may be taken off in a thick layer, and may be churned as stated by our correspondent. This method is quite common in parts of England where the cream is sold in this condition, under the name of clouted cream, for table use. But it is not commonly practiced in making butter, because the grain of the butter is spoiled by the heat, and it will not be accepted in the market as first-class butter. Temperature has very much to do with raising the cream, as is shown, for instance, by the deep, cold-water settings by which the milk set in pails sixteen inches deep, and eight in diameter, in ice-cold water, throws up practically all the cream in twelve hours in the middle of summer, while milk set in shallow pans exposed to the summer heat, will not do this. And milk set in shallow pans in the winter, although not exposed to a freezing temperature, will not give up all its cream. Why these differences happen no one has yet clearly explained as to the behavior of the shallow-pan milk. As to the deep-pail method this is explained by the action of the increased pressure of the heavier body of ice-cold water milk on the lighter cream, in this depth of the milk. There is no good reason why this method described by our correspondent should not be adopted for making butter for home use, but we do not recommend it for butter for market.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 1016 Davis St., Evanston, Ill., who has editorial charge of this department. All inquiries requiring answer by mail must be accompanied by a fee of $1 each.

Brain Trouble.—Sow took sick; refused to feed; took no notice of anything, but stood in corner raising her head as high as she could, and frequently pawing with one foot. Would walk away and run into everything and fall over everything until she would get in a corner again, and then would begin as before. Was due to farrow in two months. What was the matter with her? Post mortem examination showed no impaction of the bowels; the kidneys were nearly white though, so was the brain. The brain was soft on the under side, like soft, white butter or something of the kind. The blood was nearly black. H. W. SCHNEPP.
Delphi, Ind.

Symptoms indicate brain and spinal cord trouble, which might proceed from derangement of the stomach. You should, however, have made an examination of heart and lungs. We think you did about all that could have been done and that she could not have been saved.

Indigestion.—My hogs seem to be hungry all the time; look bad, and when they make water there is a thick mucous or phlegm in it. I feed them corn and wheat bran mash. They run in a large wood lot, where they have plenty of exercise. 2. I have a cow that didn't do well when she calved; then she got hurt in her stall and now can't get up, but when helped up can walk all day; seems to be weak in the back.
Conway, Ark. J. E. RAMBO.

Hogs are affected with indigestion, and green feed will soon put them to rights if you stop feeding corn. Give each a dose of epsom salts to move bowels. Four ounces is the dose for a full grown hog, and it may be given in a little slop or water. When it has acted follow with a teaspoonful of hyposulphite of soda twice daily, in slop or water, and allow wood charcoal abundantly. 2. Cow requires a tonic and should be generously fed on foods which go to form muscle. Such foods should be oats, middlings, bran and flaxseed meal. Also, three times daily, give her one drachm of fluid extract of nux vomica and increase this dose gradually, if she does not improve, until muscles are seen to twitch involuntarily, when it may be discontinued. Rub the loins twice daily with the following liniment: Turpentine, two ounces; aqua ammonia, two ounces; chloroform, one-half ounce; raw linseed oil, one pint; shake. Should this blister, stop use for a day and then use but once daily.

Affected Breathing. — I have a horse about 12 years old, in fair condition, which seems to have difficulty in breathing. When eating there is an almost constant rumbling of the intestines, but this does not cause him any pain. When first taken from the stable he sometimes breathes with a half snort, but after driving him for a short distance this passes away, unless he is urged too much, when he seems to be short of breath. Does not cough. Am feeding six quarts of oats per day in two feeds, with hay twice a day and occasionally some cut corn stalks for noon meal. He is also blind in one eye, but is a very good horse in other ways.
Buffalo, N. Y. E. F. C.

The horse is threatened with heaves; in fact, that disease has doubtless started, but may be relieved by different feeding and management. Stop feeding hay during daytime. Work him every day or turn him out for exercise when there is no work to do. Feed a little sound, wetted hay at night two hours after grain has been eaten. Always give the drinking water before, but not soon after a meal. Always allow a long rest after a meal; in other words, never work him just after a meal. See that teeth are in good order. He is possibly not masticating his food properly. Have barn clean and well ventilated. Give him half an ounce of Fowler's solution of arsenic twice daily.

Lameness.—Mule is so lame in right hind leg she can hardly walk at times; most so when going up hill; she will stop and hold up her leg. She had this same lameness last spring. J. BERRY & BRO.
Glasgow Jct., Ky.

We are sorry to say that it is impossible to give a confident opinion in such a matter without examination. We suspect, however, that the seat of lameness is the hock joint, in that the leg is held up when sore. At the same time, sciatic rheumatism causes similar symptoms, and in that case the hip is the seat of lameness and the hair should be clipped off and a large surface well blistered with cerate of cantharides. If you cannot have her examined by some qualified practitioner test the hock by picking up foot of affected limb and holding it for a few minutes as near to stifle joint as possible so as to flex hock tightly. Then drop it immediately and have animal trotted away. If hock is the seat of the trouble the animal will go extremely lame for a few steps and then go sound again. In that case the hock should be fired and blistered for occult spavin or rheumatism of joint. As a rule, when spavin is present the animal starts out lame but recovers with work and is again lame after a short rest. If hock is found to be sound better blister hip as above suggested.

Dr. Shoop's
Rheumatic Cure
Costs Nothing If It Fails.

Any honest person who suffers from Rheumatism is welcome to this offer.

I am a specialist in Rheumatism, and have treated more cases than any other physician, I think. For 16 years I made 2,000 experiments with different drugs, testing all known remedies while searching the world for something better. Nine years ago I found a costly chemical in Germany which, with my previous discoveries, gives me a certain cure.

I don't mean that it can turn bony joints into flesh again; but it can cure the disease at any stage, completely and forever. I have done it fully 100,000 times.

I know this so well that I will furnish my remedy on trial. Simply write me a postal for my book on Rheumatism, and I will mail you an order on your druggist for six bottles Dr. Shoop's Rheumatic Cure. Take it for a month at my risk. If it succeeds, the cost is only $5.50. If it fails, I will pay the druggist myself—and your mere word shall decide it.

I mean that exactly. If you say the results are not what I claim, I don't expect a penny from you.

I have no samples. Any mere sample that can affect chronic Rheumatism must be drugged to the verge of danger. I use no such drugs, and it is folly to take them. You must get the disease out of the blood.

My remedy does that even in the most difficult, obstinate cases. It has cured the oldest cases that I ever met. And in all my experience—in all my 2,000 tests—I never found another remedy that would cure one chronic case in ten.

Write me and I will send you the order. Try my remedy for a month, as it can't harm you anyway. If it fails it is free.

Address Dr Shoop, Box 577, Racine, Wis.

Mild cases, not chronic, are often cured by one or two bottles. At all druggists.

The Books are Free
Spavin Lump Jaw
You can cure Bone Spavin, Bog or Blood Spavin, Ringbone, Curb, Splint or any blemish hard or soft, Fistula, Poll Evil, Sweeny or Knee-Sprung, also Lump Jaw in cattle, with very little trouble or cost. Our two booklets tell you how and prove that you can do it, and we will guarantee you success in every case. Over 140,000 farmers and stockmen are doing it our way. If you have a case to cure write us and we will send you the books free.
FLEMING BROS., Chemists,
323 Union Stock Yards, Chicago, Ill.

O. I. C. SWINE As good as money will buy or scientific breeding produce, at prices that farmers can afford to pay. Pedigree furnished with every animal. Start right by ordering a bred sow or a pair of pigs.
C. S. BENJAMIN, Portland, Michigan.

NON POISONOUS SURE PROTECTION
CHLORO-NAPTHOLEUM
THE PREVENTIVE TREATMENT
Chloro-Naptholeum
is a true Disinfectant
Deodorizer and Germicide.
One part of Chloro-Naptholeum to 100 parts of water makes a solution which will kill all insects and lice on animals—cure the mange and itch. Sprayed in the barns, stables and house it destroys odors and noisome smells and makes healthful and perfect sanitary conditions. It is needed on every farm. It has a 1000 different uses. One gallon costs a $1.50 and that will make enough for a month of ordinary use in many places.
West Disinfecting Co., 15 East 59th St., New York City.

Registered P. China, Berkshires & C. Whites, 8 wks to 6 mo.; mated; not akin; service Boars; Bred Sows. Write for prices and description. We refund the money and have them returned if not satisfied.
Hamilton & Co., Ercildoun, Chester Co., Pa.

GOING VERY RAPIDLY.
The Veterinary Obstetrical Compendium written by Wales E. VanAme, is having a Phenomenal sale, which is conclusive evidence that the Breeders of Domesticated animals are much in need of a work of this kind. As the last edition, which comprises 100,000 copies is going so rapidly, all those that are interested in Obstetrics in Live Stock should not delay in securing a copy of this valuable work while it can be purchased at the present price of $1.00.
Send all orders to The Live Stock Proprietary Remedy Co., Fort Wayne, Ind.

A GOOD MORTGAGE PAYER.
THE DE LAVAL SEPARATOR CO. Madison, Wis., Jan'y 20, 1903.
Gentlemen:—Calendar received. I am no longer on the farm. The cows and *your Separator* paid off the mortgage, and made it possible for me to retire. Yours truly,
MYRON H. ATWOOD.

NEXT AFTER WIFE AND CHILDREN.
New Windsor, Md., Oct. 21, 1902.
THE DE LAVAL SEPARATOR CO., New York City.
Gentlemen:—I tell you the De Laval Cream Separator in a family comes next after the wife and children—even before the dog. I have used my "Baby" No. 2 on the farm just ten years (with hired help) and I am sure it has paid for itself five times over. Wouldn't think of owning three cows unless I had a separator, and I am no agent either. Very respectfully,
NATHAN H. BAILE,
Cashier First Nat'l Bank, and also a farmer.

TEN YEARS OF USE WITHOUT REPAIRS.
South Plymouth, N. Y., March 4, 1903.
THE DE LAVAL SEPARATOR CO.
Gentlemen:—I have used my machine 10 years without any repairing or any expense. Will have to have it repaired soon. Please send me a catalogue of your modern machines.
Truly yours, M. C. STEWART.

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Sheep Dips, Tanks, Worm Cures, Ear Marks, Punches, Tattoo Markers, Shearing Machines, Shears, Sheep Marking Paint, Lamb Feeders, Lice Paint, Poultry Supplies, Veterinary Remedies, etc. Write for Catalogue AT.
F. S. BURCH & CO., 144 Illinois St., CHICAGO.

Weak Calves.—Will you please tell me what was the matter with my calves? I have had two that came all right, but for about twelve hours they seemed to have no control of their hind legs. After being fed on a bottle for about ten hours they will try to stand, when their ankle joint knuckles under; after a while it is all right; then they are ready to suck; will not suck before even though held up to the cow and a teat put in their mouth. The cows, as also the calves, were in good shape. The feed of the cows this winter has been sorghum hay, straw and buffalo grass. N. R. BISHOP.
Meade, Kan.

Such cases are quite common where pregnant cows have been fed a ration deficient in nitrogenous principles, and the remedy is to feed grain, such as oats or other nitrogenous foods, such as bran, middlings, flaxseed meal or cake and dried blood meal. The calf is the product of a complete ration and lacks strength if produced from an incomplete ration, such as you have used. It is under similar circumstances that so-called "calf cholera" appears, and it is a wonder that you have not had it among your calves. In addition to the feeding suggested we would advise that when the calf is born you wet the navel cord at once with a strong antiseptic solution and repeat the dressing daily until the cord dries up and no raw spot remains. Also see to it that the stables are well ventilated and cleaned and that the calf is born in a clean, well ventilated, sunny place.

Indigestion.—Six weeks ago I bought a gray mare, which I have had at home for a month. While away from home she was fed corn fodder and corn, I think; but from her condition I should say very little corn. Her hair was lousy. I had her clipped and got rid of most of the lice with tobacco solution. While away from home a man worked her and she was mud-scalded. Have used lard and sulphur and have that under good control. Since being home have fed 3 quarts cracked corn and oats mixed, and timothy hay at night; cut hay and a quart each of bran and corn meal in morning. She grazes all day and gets a little green grass. Seems well and eats heartily, but her water is very yellow and murky looking, and following urination a few drops of blood fall. In fact, she seems to pass a little blood all the time.
Congress Heights, D. C. L. D. ADDIS.

The principal trouble here is indigestion from overfeeding. Stop all grain and meal for at least two weeks, during which time allow grass and hay, and twice a week a warm bran mash in which mix two teaspoonfuls of baking soda. There may be some vaginal trouble present, accounting for the blood noticed. For this flush out vagina three times a week with a solution of half an ounce of tannic acid in a gallon of warm water. Write again if she continues to have discharge from vagina and do not breed her while in that condition. At end of month commence feeding her grain, if she has work to do, but at no time is it well to feed corn meal. Horse should always masticate food naturally.

Founder.—Bay mare, 8 years old, was bred last July and lost foal 18th of February; sick ever since. She paws and lies down most of the time. When getting up she seems cramped for a moment then staggers slightly; walks very stiffly on forelegs; water thick yellow; dung dark clay color. I have been feeding timothy hay and good oat hay. Since sick I feed her bran mash and all the carrots she will eat. FRANK PARKER.
Toutle, Wash.

It seems certain that the mare retained all or a portion of the afterbirth, following abortion, with the result that she has been suffering from sub-acute metritis (inflammation of the womb) and founder, which often go together under the circumstances mentioned. In this case there would be some discharge from the vagina. On general principles we would advise you to flush out the vagina once daily for ten days with a couple of gallons of milk-warm 1-1000 solution of chloride of zinc. Stop feeding carrots; they probably disagree with her. Three times daily give an ounce of glauber salts in a little water until the manure is of normal, healthy color. Feed bran mashes containing a little flaxseed meal. When grass comes turn her out and feed twice daily a little oats. Lightly hammer soles of feet and if tender shoe with wide-webbed shoe over tar and oakum dressing and sole leather sole. Clip hair from coronets of both forefeet and blister twice a month with cerate of cantharides, one ounce; biniodide of mercury, one drachm; mix. Rub it in for 15 minutes; wash off in 48 hours; then apply lard daily. Tie her up so she cannot bite parts while blister is active.

Abortion.—A 5-year-old Shorthorn cow aborted her 6-months calf about March 1st; thought to have been caused by an overfeed of ground wheat. She is apparently all right and would have accepted service March 17th. How soon can she be safely bred?
Corinth, Va. S. SIDNEY CASSELL.

It is a safe rule not to breed such cows before that date when they would have been bred had they not aborted. Isolate her and once daily flush out vagina with two gallons of milk-warm 1-1000 solution of chloride of zinc. Keep this up until no discharge can be seen. Give the injections for at least a week, even if there is no apparent discharge when this reaches you. Also give her, twice daily, half a drachm of carbolic acid well diluted with water and mixed in soft food or sprayed upon hay or fodder. If she has been with pregnant cows since she aborted, sponge or spray vulva, tail and inside of thighs of each cow once daily with above mentioned antiseptic, and give them the carbolic treatment. If bull has served this cow his sheath should be flushed out daily with the above solution for one week. Aborted cow is not to be placed with other cows before she has carried a calf the full time and has been well washed out for a week after calving. This precaution is necessary and advisable, as contagious abortion is a fearful scourge when once established in a herd, and one cannot tell that it will not be spread following an apparently accidental case of abortion. We therefore prefer to treat all cases just as if sure that they were due to the contagion. This is safest course to pursue.

Garget. — We have a cow 5 years old which has raised three calves. She has always been troubled with giving lumpy milk at times. She is worse when heavily fed or on good grass; sometimes her milk seems all right for several weeks at a time and then there will be several days at a time that her milk will be lumpy in two teats.
Friendswood, Tex. G. W. S.

In cases such as this there is always a suspicion of tuberculosis so that cows should be tested with tuberculin. At the same time it is common for milk to become gargetty, as you describe, when cow has periodical attacks of indigestion. At such times food should be withheld and the cow given a pound dose of epsom salts in two quarts of warm water, and after this has acted give an ounce of hyposulphite of soda three times daily in water. See that cow is kept clean and has a dry bed if in barn. Also that milking is well and quickly done by an experienced milker.

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GOMBAULT'S
Caustic
Balsam
A Safe Speedy and Positive Cure
The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. *Impossible to produce scar or blemish.*
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by the old method of skimming milk is rank folly. With a National Cream Separator you can save 80 per cent. of the butter-fat you are now throwing away. It separates both warm and cold milk, light or heavy cream and skims practically *clean.* We send it
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"SAVE-THE-HORSE"
TRADE MARK
SPAVIN CURE
HOWE & CO.,
Real Estate, Estates Cared For,
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247 Washington St., Room 2.
Boston, Mass., Jan. 21, 1903
Dear Sirs: I have used a bottle of "Save-the-Horse" and I consider it the best thing that as yet I have been able to obtain for what it was intended, it having entirely cured a very valuable mare which has been lame since last September with a sprained ankle. We had her blistered twice and laid up for two months, but it did no good. I was just about ready to breed her when I gave it a trial; she is now entirely sound.
Yours respectfully,
ALBERT E. BAKER.
POSITIVELY AND PERMANENTLY CURES bone and bog spavin, ringbone (except low ringbone), curb, thoroughpin, splint, capped hock, shoe boil, weak and sprained tendons and all lameness. $5.00 PER BOTTLE.
Written guarantee with every bottle, constructed to convince and protect you fully. The need of second bottle is almost improbable, except in rarest cases. Guarantee covers effectiveness of one bottle.
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Also veterinary Pixine, the scientific antiseptic healing ointment, for hopple chafes, sores, grease heel, scratches, speed cracks and skin diseases. 2 oz., 25c.; 8 oz., 50c.; 5 lb. package, $4.

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This famous herd of cattle was founded largely upon selections from the importations of the late Senator John R. McPherson, of Belle Mead, N. J., and has been judiciously and carefully bred and handled and bred to excellent bulls of the fashionable lines of the day. The herd is in perfect condition and of large producing capacity—but has not been officially tested. It will readily be seen upon inspection, however, that it only remains to test these cows to develop some as large producers as the breed posesses. Circular of Farm and Catalogues may be obtained of the Manager.
Finderne N. J. is 32 miles from New York City and 65 miles from Philadelphia on the N. J. Central Phila. & Reading Lehigh Valley Railroads, Station on the farm. Trains every hour of the day.
Sale begins at 11 o'clock.
J. E. Roberts, Proprietor; Jacob Klotz, Manager; Wm. H. Hope, Auctioneer.

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Invaluable for cuts, kicks or bruises. Manufactured scientifically by a famous Veterinarian.
Sold by Dealers generally.
Horse size, 50c. and $1.00 per bottle.
Family size, 25c. per bottle.

THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

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Pays for The Practical Farmer for ONE YEAR and a Due Bill good for SEEDS, PLANTS or BULBS to the amount of ONE DOLLAR selected from the catalogue of a leading seedsman. Making $2.00 good value (*especially at this season of the year*), for only $1.25.
THE FARMER CO.,
P. O. Box 1317, Philadelphia.

Notes from a Carolina Garden.

Spring is with us in full force, and planting of all kinds is simply delayed by the continual downpour of rain. Land that was plowed early had to be plowed over again, and much will have to be plowed a third time, since the torrents have settled it back harder than ever. Our Irish potatoes planted in December are up and looking well, and in working them over a few days ago I found they had young potatoes as large as hickorynuts, and it would seem that there will be potatoes there of edible size by the first of May. The general planting of early potatoes has been delayed by the wet and ours only got into the ground last week, along with the first corn planting. Only a little sugar corn has been planted, as we make the first planting of Adams, which is not so apt to rot in the cold ground. The Just So radishes are now in use on the table and are fine. We have quite a lot of varieties of peas, about which we will write later. They will be blooming in a few days and we have two types of extra earlies which we will be interested in comparing. Green onions are going to market rapidly and will soon be over and the ground prepared for melons. We have also quite a lot of varieties of these that we will compare and report upon. Wakefield cabbages are growing rapidly in the wet weather and will soon be heading. The wet weather has put the asparagus back as the ground has kept too cold for much growth in our clay soil. I hope to prepare a bed in lighter land this season. In the flower garden the gladiolus and cannas have been planted. Down in the lower part of the garden is a little glen, through which flows a tiny stream from a spring. Along this there was a swampy spot. We pulled the earth from the hill down over this and here have planted a lot of cannas and Japanese iris to make gay a spot heretofore only growing water grass. We grow the Groff gladiolus, and find it a great improvement on the old varieties. From a start of 100 two years ago, we now have a thousand or more, and will soon have bulbs to dispose of. In the North gardeners plant parsnips and salsify among the earliest crop in the garden. Here we do not sow them until July. We find that if sown in early spring they are apt to run to seed and get woody about mid-summer, while sown in July they grow right along all the fall and winter and are greatly better in quality.

I have just finished, this 24th of March, tying up my grape vines, and the work had to be tenderly done, for the young shoots are pushing fast and are easily broken. The mildness of the winter is shown by the figs, which are sound to the tips and the young figs are swollen nearly as large as hickorynuts. These early figs are the best, when we get them. They are set in the fall and remain dormant during the winter, and if the weather is so severe as to kill the young ones we have no early fruit and have to depend on that which forms as the wood grows, and the late figs are never so large and fine as the early ones. Most of my figs are the Brown Turkey, but I am rooting some cuttings of the Celestial, which is about the hardiest fig we have. The Department at Washington has sent me some cuttings of new sorts which are reported quite hardy, and I shall look with interest to their development. Years ago I had over 60 varieties of figs, but gradually narrowed down, for many of them were only hardy enough for the orange belt. After a long trial I have succeeded in getting a vine of the Jane Wylie grape. Long before the Civil War Dr. Wylie, of South Carolina, did a great deal of work in efforts at crossing the Scuppernong with the Northern Labrusca. Jane Wylie is one of his seedlings and I had about despaired of finding it. Recently I found a vine near Raleigh, N. C., and succeeded in getting a layer from it, and will take a great deal of interest in noting its character. The vine looks like Labrusca more than Vulpina, but it may show something of the cross later. What is needed in the South is a late bunch grape to fill the gap between the Concords and Delaware and the Scuppernong class, and we are trying hard to get such a grape. I have about 300 varieties of grapes growing, many of them of use mainly to show the advance that has been made in American grapes. The latest addition to the number is a little plant of the Stark grape from Missouri, of which great things are claimed. We planted it in the same row next to the Jane Wylie, and will give both special attention. We have adopted, for our grapes, a modification of the Munson trellis. Posts are set in the rows and cross-pieces two and a half feet long nailed at top. Three wires are stretched horizontally, one along the line of the tops of the posts and the others at the ends of the cross-pieces. The wires are five feet from the ground. The arms are taken each way along the middle wire and the fruiting branches hang over the outer wires. The foliage thus forms a roof to protect the fruit from the dashing rains of the South, and rot is less troublesome by far than on a vertical trellis. We have used this trellis for years and would not exchange it for any we know of. Strong canes are taken every year to renew the arms and the vines are planted eight feet apart in rows ten feet apart. We have had wheat on the ground as a winter cover, and now will plow it down and cultivate the vines.

◆

Points and Pickings.

Get the Seed Potatoes out where they are exposed to the light. Otherwise they will sprout and become weakened in vitality.

There are Honest Men, as well as rogues, in the commission business. Size them up, and then patronize the honest fellows among them.

Give the Commission Man a chance. He must sell goods on guarantee, and you must make it safe for him to guarantee the goods. If you face your goods, put poor stuff in the centre of package, don't blame him if he fails to make big returns.

A Garden Help. — "How to Make the Garden Pay" is a prime help in making a good garden. It applies equally well to the large truck farm, the farm garden or the village lot. Price $2, postpaid. Send to The Practical Farmer, Philadelphia.

Weeder for Onion Patch in Florida. —Seeing your answer to Jos. P. Woolman in P. F. of Feb. 28th, reminds me of my weeder. I made weeder about like a hand hay rake, but used round umbrella wires for teeth, 15 inches long, 1 inch between teeth. I plant onion seed as usual, and run hand plow beside row, to make a ridge on row. I use a Planet Jr. combined drill, using plow on left side, and no roller. When the seed gets above general level of garden, I level by running back of weeder lengthwise of row, and after that use weeder right side up.

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Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Cherry Trees in Wet Ground.

A correspondent in Ohio writes me that having read an article in the Horticultural Department of the P. F. some time ago, treating of trees in wet ground, he would like to know what would be his chances with cherry trees in a lot which is so low that water, though it does drain away, does so very slowly. Answering this I would say that I am sure it would not suit the cherry at all. It likes drier ground than this lot would ever be, unless improved. I am conversant with more than one planting of this very kind, and in one instance the nature of the land was identical with that described by this correspondent. Cherry trees of three-year age and about six feet in height were planted. The land was not level; there was a slope to it. The lowest portion planted still had lower ground beyond it. It was quite an interesting sight to see those trees. There was a difference starting at the lowest tree and going up the slope, from bad to better, for almost 200 feet, after which no difference could be seen. The lowest tree was nearly dead, and from this one up to the sixth or seventh tree there was an improvement. After that there seemed no difference; all were good. As it has often been demonstrated, it is not so much the presence of water as it is partly stagnant water that does the injury. The writer knows of a fine spring of water on a neighbor's farm which is walled up at its mouth and for some feet leading away from it. Between the stones of this wall is a nice Mazzard cherry, with a butt which callipers a foot. The tree has been known to be in its present position for upwards of thirty years. Where it emerges from between the stones is about two feet above running water. The water never hurt this tree. It grew and seemed in every way suited to the position it was in. It had a chance to root back from the water, in higher ground, which no doubt it did. Though the soil must have been very damp, it was fresh water continually, and this is what made all the difference between its well doing and the ill doing of those above mentioned growing in low, badly drained ground. Were drains laid in the low ground, that the water could get away quickly, the cherries would have grown satisfactorily there.

Announcement
We have obtained the Court's decree against two additional manufacturers who have been infringing our patent. The rule of law is: "The maker, seller or user of an infringing device are all liable in damages to the owner of the patent infringed." The Janesville Machine Co. and the Keystone Farm Machine Co. are the only firms licensed to use a *flat tooth* covered by our patent, and we finally warn sellers and users of all other makes. So admirably have the 60,000 "Hallock" Weeders done the work for which they were designed, that one maker after another sought to copy it. However, by the various Courts' decisions, these makers are compelled to abandon the manufacture of a Weeder having flat teeth, and they are now experimenting with other shapes; but it is the flat tooth that made the "Hallock" Weeder famous, and in view of the manner in which our patent has been sustained, it is dangerous to use an infringing tooth. Write for descriptive circulars and prices.
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APPLE TREES That will grow. Varieties and stock all of the best. Catalog Free. Harrison Nurseries, Box 30, Berlin, Md.

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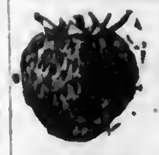
ONION Plants. Giant Gibraltar PRIZETAKER $1.15 per M mail; $1.00 express. Remit postal order, deduct cost. F. E GALE, Genesee, Pa.

SEED COW PEAS FOR SALE.
100 bus. sound *Speckled* or *Whippoorwill* at $1.10 per bu. and 400 bus. sound mixed peas at 90 cents per bu., sacked F. O. B. cars here. Apply at once.
J. M. FARRELL, Blackville, S. C.



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First class, 4 to 5 feet, $7.00 per 100; medium sized trees, first class, 3 to 4 feet, $6.00 per 100. Our list of varieties: Chair's Choice, Crosby, Crawford Early, Crawford Late, Elberta, Fitzgerald, Globe, Niagara, Red Cheek Molocoton, Beers' Smock, Yellow St. John and Triumph. Send for free catalogue. Everything for the orchard, park and garden. Address,
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GRAPE VINES STARK GRAPE NURSERIES Portland, N. Y. are in the heart of the famous Fredonia-Chautauqua Grape Belt, which produces the best vines of any locality in the U. S. An Immense Stock.

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Horticultural Queries.

Protecting Small Fruit.—How can I protect my currants from the birds? I had $2 or $3 worth taken by them last year. I expect to raise more this year.

Montpelier, Vt. MRS. J. P. F.

Vermont birds must have developed a fondness for fruits, considering what you say. Of the list you name, only the strawberry is attacked here by birds. There is no way to keep the birds away except by covering the bushes with nets. These nets are advertised by seed and implement houses. It is claimed that in Europe birds attack other fruits as well as strawberries, such as currants, and that netting the bushes has to be resorted to to save the fruit. I would not abandon the attempt to have fruit were I in your place.

Grafting Wax.—As the time for grafting is near, and inquiries for formulæ for making grafting wax are coming in, I give the enclosed, which you may use in the P. F. if you wish. I have done grafting for myself and others from my boyhood to the present, and never found any other wax to give me better satisfaction in the work. Formula for making.—Four pounds of rosin, one of beeswax, one pint of linseed oil; put in an iron pot, heat slowly; mix well. Pour into cold water. Pull by hand until it assumes a light color; work into sticks and keep in a cool place until wanted.

Sunbury, Pa. S. SHIPMAN.

Our correspondent has our thanks. Nearly every farmer does a little grafting, or should do, and these hints are very useful.

Treatment of Orchard.—Have an orchard of about 120 trees; has been in cultivation for two or three years. As soon as crops are laid by the native blue grass takes entire possession of the ground. Would it do to cultivate the surface early and let the grass take possession and then keep it mowed off instead of sowing orchard grass, or would it do better to put the surface in good condition and mulch the whole with old straw, of which I have plenty? I thought the last plan the best. As the apples drop off before ripe, will the mulch help this? Trees consist of apples, pears, cherries and plums. Rich soil, underlaid with hard, gravelly subsoil. S. K. LETHERMAN.

Goshen, Ind.

As the trees are in rich soil, as you say, the probability is that the growth they make is satisfactory, though on this point you do not advise us. In case you consider growth satisfactory, cultivation is not required, and you could carry out your first proposition, viz., let the grass take possession and keep it mowed off. Should you desire strong growth, or even stronger growth than you have had, then I would cultivate; but unless you are subject to droughts, I do not see that a straw mulch would be good. It is not likely the fruit drops from any cause mulching would prevent.

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Horticultural Notes.

Setting Peach Trees.—In the North, planters prefer setting one-year peach trees in spring. Peaches grow so late in the fall that the wood is hardly ripe enough to winter well after a transplanting. Trees of two-year size, with hard shoots, may be set in the fall.

Strawberry Plants set in spring make splendid fruit-producing ones by the time they have had a year's growth. Those set in the fall, if put out early so a good roothold be obtained before winter, will bear a fair crop of fruit the spring following.

Pie Cherry.—The old pie cherry, Early Richmond, is still the most popular of the tart sorts. English Morello is the best late one. The tartness of the Early Richmond prevents the attacks of robins, such as the sweet cherries have to endure.

Spring-Set Roses. — Spring is a much better time to set out roses than autumn unless plants are in pots. They do not withstand hard freezings after recent transplantings. Spring-set plants get a firm hold of the soil, which counts when winter comes.

Scales on Trees. — Common whitewash will kill scale on trees, no matter of what description. A little sulphur with it is a help, knocking out fungi attacks. Anything that encases the scale will kill it, let it be whitewash, grease, or what.

Smith's Cider Apple, a favorite winter variety in many parts of Pennsylvania, is far from being of inferior quality, as some suppose. When thoroughly ripe it is a good eating sort. Its productiveness and regularity of bearing are its well-known merits.

The Cardinal Flower. Lobelia Cardinalis, used to abound in half swampy places in this vicinity, but its tall spikes of scarlet flowers being so handsome, it is dug up for planting in gardens to a great extent. There is nothing better for a quite wet place.

Bergamot.—The scarlet and the purple bergamot are most useful hardy plants. It is necessary to set but a small plant, as they are quick to spread, and in a year or two show great clumps where but small pieces were set out.

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POULTRY.

This department is under the editorial charge of A. F. Hunter. All letters, inquiries and requests should be addressed to him at the Practical Farmer office, P. O. Box 1317, Philadelphia.

Poultry Queries.

Hens Have Colds. — E. G. Crosley, Farina, Ill., writes: "I want to ask a little advice. I have 75 hens and pullets together, and two or three days ago noticed one had a sore eye, but did not think much of it, but it went on a day or so and I noticed she had a hard time breathing, so I began putting coal oil on her head and down her throat. I noticed another one yesterday that acted as though her throat was stopped up, so killed them both, as I supposed it was roup. Have put carbolic acid in the drinking water, cleaned out roosts and scattered air-slacked lime all over roosts. My roosts are warm, but one of them is small and I have to let the birds out of it in the morning as soon as possible, as there is a shed close to it and they have the run of the barn which joins onto the hen house. I am feeding a mash in the morning composed of table scraps, potato and apple parings, beans or pumpkins, cooked one day, warmed up the next morning and thickened with shorts and a pint and a half of beef and blood meal; their other feed is mostly corn with some oats and buckwheat. Am getting about two dozen eggs a day and do not want them to get roup and stop laying, as they are gaining right along. Would like to know what I had better do to stop it and whether I have done all right. I want to go into the poultry business more extensively and want to learn all I can." The sore eyes and hard breathing are caused by a severe cold, but are not roup, although they will degenerate into roup if let run their course. Coal oil is a good remedy if you do not put too much on the head and throat; it should be used sparingly or the remedy may be worse than the disease. If you would make a mixture of lard, coal oil and a few drops of carbolic acid, you would have a better remedy than pure coal oil, which is quite volatile and dries off quickly. Such a trouble will not yield to the first application of a remedy; it was probably several days coming on and will be several days going away. You have made a mistake in crowding too many birds into the small pen. They get overheated from being packed so closely together, and when let out in the cold air with the skin pores all open a chill results and the bird catches cold. Don't increase your poultry business until you have room enough for housing the flocks. Don't put 75 birds into house room only sufficient for thirty or forty. You will get as much profit from a smaller number, save feed and avoid the risks of diseases resulting from over-crowding. It pays to give the hens room in which to be comfortable.

White Leghorn Cockerel. — Miss C. Van M., Petersburg, W. Va., writes: "Will you please inform me where I can get a pure White Leghorn rooster?" You can get a pure White Leghorn cockerel of Knapp Bros., Box 400, Fabius, N. Y., White Leghorn Poultry Yards, Waterville, N. Y.; Henry Van Dreser, Cobleskill, N. Y.; C. J. Fogg, Waltham, Mass.; S. E. Smith, Norwich, N. Y.; N. R. Collins, Rootstown, Ohio. We regret that more poultrymen do not advertise in the P. F., but they give as an excuse that buyers who read farm papers are not willing to pay a fair price for stock or eggs, consequently it does not pay them to advertise in a farm paper.

Feeding Cut Bone. — Mrs. H. D. E., Covington, Ohio, writes: "In our last number of the P. F. is an article on feeding fresh cut bone to chickens. We have a flock of 45 B. P. Rocks; they are doing right well, but could do better, I think. We get 17 to 24 eggs daily from them; do you think it would pay me to invest in a bone cutter, and if so what is the best make and how often should they be fed and how much at a time? We feed wheat, corn, oats and meat scraps from the table, also give them dried egg shells saved for that purpose during summer; give them coal ashes; for green feed we give cabbage and celery cut fine. For drinks, skimmmilk and fresh water. Do young chicks do well on cut bone? How much should they have? I would be very thankful for an answer to all of these questions, which are 'numerous.'" Your hens are doing quite well, better than many farm flocks, no doubt. You do not tell us whether your birds are pullets or if part of them are two and three-year-old hens; if part of them are the latter they are doing well enough. Your ration is good, supplemented by the skimmilk; the meat scraps from table may be and may not be of decided help, something would depend upon the size of the family and quantity of meat scraps. Cut bone is an important animal food supply and helps make chickens grow and hens lay. In feeding it to chickens it should be cut fine, else much of it will be wasted; begin feeding a little at a time, two or three times a week, after the youngsters are two weeks old. Scatter it about on the grass so that all may get some of it.

◆

A Fine Kidney Remedy.
Mr. A. S. Hitchcock, East Hampton, Conn., (The Clothier) says if any sufferer from Kidney and Bladder Disease will write him he will direct them to the perfect home cure he used. He makes no charge whatever for the favor.

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PROF. W. F. MASSEY, Editor.

Philadelphia, April 11, 1903

Railroad Extension in Cuba.

Those who have been accustomed to look upon Cuba as a small island may be surprised to know that the railroad now completed between Havana and Santiago is nearly 900 miles long. This road, built by an English-American syndicate, is completed in the most modern method with bridges of steel and stone, and it is proposed to run through Pullman sleepers over the entire line, opening up a country of marvellous fertility, still sparsely settled, and abounding with valuable hard-wood timbers. Unlike many of the West India Islands, Cuba is entirely free from poisonous reptiles, and has fewer mosquitoes and similar pests than any other tropical region. With the adjustment of land titles by the Cuban Government, and an accurate survey thereof, there will, in the future, be a broad field for agricultural expansion in the richest soil in the world. Cuba has no public lands, but the Government is undertaking the settlement and adjustment of land titles.

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Farming for Cotton.

Mr. Myatt, a farmer who is *farming* with cotton, hauled to Raleigh, N. C., a few days ago, 112 bales of cotton which he grew on 85 acres of land. He sold it for nearly $5,500. There is money in cotton when grown at the rate of 112 bales on 85 acres, especially when the price is up to near ten cents per pound. But the men who plant the same land year after year in cotton, with a little dribble of fertilizer, generally require four or five acres to make a bale, and there is little profit for them even at ten cents per pound, and when the price was down to five cents it was absolute starvation to them. But here and there in the South we find men like Mr. Myatt, who are farming in reality and have dropped the old planting idea, and hence are making money at farming. The strangest thing about the whole situation is that men will continue in the old way when they have such examples before them. We have seen it stated that the famous acre of land in Marlboro, S. C., on which Col. Drake grew 254 bushels of corn, has never since that heavy manuring, made less than two bales of cotton per acre. Would it not be better to get 50 acres up to such a production than to work over 400 acres to get the same amount or less? And yet there are thousands of farmers in the South who do not grow 100 bales on 400 acres.

◆

Education and Agriculture.

Just to the extent that the agriculture of a State is prosperous we find that the State College of Agriculture is supported and patronized. Increased intelligence and thrift among the farmers always leads to a greater appreciation of the value of education in agriculture. And the appreciation of education is usually brought about by the farmers reading good papers. They then begin to realize how much there is still to be learned in their profession. Hoard's Dairyman led the way in Wisconsin, and Farmers' Institutes and improved teaching in the University followed. There came a demand for better instruction, and the Agricultural Department of the University had to rise to meet it.

In Illinois, B. F. Johnson, the old correspondent of the P. F., never failed to poke fun at the agriculture of the University, and it then probably deserved it. But the farmers of Illinois got to reading more farm papers and the Institutes started, and the demand on the University had to be met. And it has been met, both by the Legislature and the University, and the Department of Agriculture of the Illinois University is a power in the advancement of the profession of agriculture in the Prairie State. And so in every State. When the farm papers are patronized and the Institutes are well supported by the State and efficiently carried on, the Colleges of Agriculture take on a new life and come to meet the demand for more knowledge in farming. We who have seen the whole lives of the State Colleges of Agriculture and Mechanic Arts, know well how inefficient most of them were in their early days. And they were inefficient largely because the farmers of the States had not comprehended the great value and importance of education in agriculture, and had failed to realize that farming is one of the most learned of all professions and needs a more complete education than any of them. The agricultural press has been the great power in promoting an interest in agricultural education, and the Farmers' Institutes have led to more reading of the farm papers, and between the two there has growa up a demand that the colleges have been compelled to meet, and the result is that the colleges have grown immensely in the value of their work for the farmers. Look at the work that is being done by any of the State Colleges of Agriculture and you can tell at once what the farmers of that State are doing in the way of study and discussion. Wherever the State College of Agriculture languishes and is ill supported by the State Legislature, you will find that the farmers of that State have not waked up to their opportunity, that they are behind hand in farming, do not read the agricultural papers and have no largely attended Institutes, if any. When the farmers are so far advanced as to realize the value of agricultural education they will get the facilities for it, for any State Legislature will do what the people come to demand of it, and no college can do what it would until the people find that they really need it and want it. The important thing, therefore, in any State, is to build up the popular appreciation of study in agriculture through the agricultural press and the Farmers' Institutes. The power behind any college is the diffusion of intelligence among the farmers, and the agricultural press and the Farmers' Institutes are that power. When every farmer reads a farm paper, and takes an interest in the Institutes, there will be an irresistible force to compel the Legislature to furnish the means for all who want it to get an education for the farm. In the agricultural States the Legislatures keep pace with the agricultural advancement. The people's college must grow from the demand of the people.

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The Basis of Prosperity.

The English people are just now very much exercised over what would become of them in case of war and their food supply from this country cut off. All sorts of plans are suggested, and one writer wants the Government to build great granaries, enough to hold a year's supply of grain, so that the country will be secure for that time at least. But it seems to us that a writer in the London Standard hits the nail on the head when he tells them that the true remedy for the difficulty is the rehabilitation of the agricultural system. He says, "We have pushed industrialism to such lengths that the land has been gradually denuded of its fair proportion of labor, and now that industrialism is showing signs of collapse, there is a surplus of labor, and the thing to do is to get the people back to the land." The writer goes on to say that war is not the only thing that threatens England and her food supply, for she is fast losing her manufacturing supremacy, and the end is not far off. "Mr. Andrew Carnegie tells us that it must arrive sooner or later, and that we are destined to become—not even a nation of shopkeepers—but a nation of professors, and students, and poets and philosophers, and so forth, which is tantamount to saying that we shall have to live by taking in each other's washing." He thinks that America is growing so fast that the food supply will soon all be needed here, and winds up with the remark that is true of any country: "After all, agriculture must be the final standby in any country, and its rehabilitation in this England of ours might be a step towards that simpler life which thoughtful men and women so earnestly desire in this age of artificialism." What is true of England is true of any country. The rage for "industrialism" all over the land is drawing young men away from the farms and into the slavery to the great monopolies controlling industrialism. In England it has led largely to the abandonment of grain cropping, and the turning of the land to pasture. But those who suppose a nation like the English can be starved are very much mistaken. If forced to it, the English will get back to the land and will put land to work growing crops, that has for untold generations been the playgrounds for the aristocracy. The many thousands of acres of land in the private parks of the wealthy should be growing food for the people in a little country like England, and it will be doing so in the not distant future. Then in this country the high pressure now going on in all sorts of manufacturing enterprises, is certain to finally subside, and thousands will be out of employment who now look to the trusts for their daily bread. When that time comes, the man who has stuck to the farm and has his home free and paid for is certain to be considered the lucky one. The world is to be fed and clothed and the farmer must supply the material, and whether the manufacturer fails or not the world is still to be fed. We may rush into this or that enterprise when the times are prosperous. But when adversity falls upon all other lines of human effort, we fall back on the land as a resource that never fails. To our young men, then, we would say, if your bent is towards the farm do not let the attractions of the city, of the factory allure you. We cannot all be farmers, but there is more of independence and success for the majority of our young men on the farms than anywhere else. You may not pile up fortunes like the millionaires in steel and oil, but you will know that the money you do have is clean money, and you crushed no one to get it. You will not be bothered by the question of the food supply, for your food will be certain and your home your own, with Heaven's pure air about it and away from the grime and smoke of the factory town. You are not at the beck and call of a corporation or a trades union, but are dependent on your own industry and intelligence, and mother earth is kind to those who treat her right, while she may yield little to those who starve her.

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We condense our list of premiums, any one of which we give for a club of six yearly subscriptions to the P. F. at 50 cts. each.

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COMMERCIAL

Philadelphia, April 4, 1903.

WHEAT.—

No. 2, red	77½	@	78
No. 2, Penna. and Del.	78½	@	79

CORN.—

No. 2	48¾	@	49
No. 3	45¾	@	46

OATS.—

No. 2, white clipped	42½		

BUTTER.—

Western creamery, extra	30	@	30½
Western creamery, firsts	28	@	29½
Ladle packed, choice	16		
Nearby prints, extra	32	@	33
Firsts	30	@	31

CHEESE.—

N. Y., f. c., small—Sep.			
Fancy	14¼	@	14½
Good to prime	13½	@	14
Fancy, large	14	@	14¼
Good to prime	13¼	@	13¾
State, part skims, prime	10	@	12

LIVE POULTRY.—

Receipts of fowls were light, and the market advanced ½c. under a good demand. Winter chickens continued scarce and firm.

Fowls, hens, per lb.	14½	@	15
Winter chickens, per lb.	16	@	20

DRESSED POULTRY.—

The limited receipts of fresh-killed fowls were promptly cleaned up, and prices were ½c. higher. Fancy soft-meated chickens were scarce and wanted.

Fresh killed fowls, choice	14½		
Fresh killed fowls, average	13½	@	14
Frozen do do do	12	@	13
Nearby chickens, choice	16	@	17
Average	14	@	15

EGGS.—

Receipts, 2,076 crates. Arrivals were moderate and the market ruled firm with a good demand. Supplies were closely up at 14½c., in returnable crates, and at 14¾c., in free cases.

Nearby fresh, at mark	14½	@	14¾
Western, choice, at mark	14¾		
Southern do do	14		
So. Western do do	14½		

APPLES.—

Baldwin, fancy, per bbl.	2.00	@	2.50
Ben Davis, fancy, per bbl.	2.00	@	2.50
Gano, fancy, per bbl.	2.25	@	2.75
Gillifiower, fancy, per bbl.	2.25	@	3.00
Greenings, fancy, per bbl.	1.50	@	2.50
Kings, fancy, per bbl.	2.50	@	3.00
Mixed winter, good	1.50	@	2.00
Northern Spy, fancy, bbl.	1.75	@	2.25
Spitzenberg, fancy, per bbl.	2.50	@	3.00

GREEN FRUITS.—

Grape fruit, Fla., brt., box	4.00	@	6.50
Grape fruit, Fla., russets	3.00	@	5.00
Oranges, Cal., navels, boxes	1.50	@	2.50
Strawberries, Fla., per quart	15	@	35

VEGETABLES.—

Asparagus, So., bunch	15	@	40
Beans, So., per ½-bbl. bas.	2.50	@	3.50
Beans, So., per crate	3.00	@	3.25
Beets, Fla., ½-bbl. bas.	1.00	@	1.25
Cabbage, Danish, per ton	8.00	@	10.00
Cucumbers, Fla., per crate	4.00	@	5.00
Eggplant, Fla., per box	1.50	@	2.50
Lettuce, So., per ½-bbl. bas.	1.50	@	2.50
Kale, So., per bbl.	35	@	50
Onions, yellow, per bu.	20	@	25
Onions, Ohio Globe, per bbl.	50	@	75
Onions, N. Y. Gl. Danv., bbl.	25	@	50
Peas, So., per ½-bbl. basket	2.00	@	3.50
Radishes, N. C., 1-3-bbl. bas.	1.50	@	2.00
Spinach, So., per bbl.	75	@	1.25
Tomatoes, Florida, carrier	1.50	@	3.00

POTATOES.—

White, Pa., per bu.	68	@	70
do New York, per bu.	63	@	65
do Western, per bu.	60	@	62
Jersey, sweets, per basket	50	@	60

BEANS AND PEAS.—

Marrows, H. P., per bu.	2.60		
Scotch peas, per bu.	1.75	@	1.80
Green peas, per bu.	1.65	@	1.70

HAY AND STRAW.—

Timothy, No. Pa., choice, l'g.	20.50	@	21.00
do Western	19.50	@	20.00
Straw, straight rye	16.50	@	17.50
Wheat	10.50	@	12.00
Oat	9.50	@	11.00

FEED.—

Bran, bulk, winter, per ton	20.00	@	20.50
Bran, sacked, spring	20.00	@	20.50

COTTON.—

Middling upland, cwt.	9.95		

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle about steady.

Extra steers	5¼	@	5½
Good steers	5	@	5¼
Medium steers	4¾	@	5
Common steers	4¼	@	4½

CALVES.—

Veal calves active and steady for best grades.

Extra calves	8	@	8½
Fair to good	6½	@	7½
Poor and common	5	@	6
Grassers	3	@	4

HOGS.—

Hogs steady to lower.

Fat hogs, Pa., Del. & Md.	7	@	9¼
Fat hogs, Western	10	@	10½

SHEEP.—

Sheep and lambs firm.

Sheep, extra wethers	6½	@	6¾
Sheep, good	5¾	@	6¼
Sheep, medium	4¾	@	5½
Sheep, common	3	@	4¼
Lambs	5	@	8

◆

New York, April 4, 1903.

WHEAT.—

No. 2, red	79		
No. 1, Northern Duluth	86¼		

CORN.—

No. 2	51⅞		
No. 2, white and yellow	52	@	54

OATS.—

No. 2, white	42½		

HAY.—

Prime, large bales, 100 lbs.	1.00	@	1.05

BUTTER.—

Creamery, extra	29		
Creamery, firsts	27	@	28½
Creamery, seconds	23	@	26
State dairy, tubs, fancy	27		
Packing stock, solid packed	12	@	13½
Rolls, fresh, choice	15		
Rolls, com. to prime	12	@	14

CHEESE.—

State, f. c., small—			
Fall made, colored, fancy	15		
White, fancy	14¾		
Colored, choice	14½	@	14¾
White, choice	14¼	@	14½
Good to prime	13¾	@	14
State, f. c., large—			
Fall made, fancy, large	14½	@	14¾
White, fancy	14¼	@	14½
State, light skims—			
Fall made, choice	12¾	@	13
Winter made, choice	11½		
State, part skims, prime	10½	@	10¾
State, full skims	4½	@	5

LIVE POULTRY.—

Fowls, selected, heavy, lb.	15		
Roosters, young, per lb.	13		
Turkeys, per lb.	15		
Ducks, average, per pair	70	@	1.00
Geese, average, per pair	90	@	1.37
Live pigeons, per pair	35	@	40

DRESSED POULTRY.—

Turkeys, young hens & toms	13	@	16
Chickens, Phila. broilers, lb.	34	@	40
State & Penna. broilers, lb.	25	@	30
Capons, average best, per lb.	18	@	19
Fowls, West., scalded, per lb.	13	@	14
Spring ducks, nearby, per lb.	24	@	25
Squabs, large, white, doz.	2.00	@	2.50
Dark, per doz.	1.25	@	1.50

EGGS.—

QUOTATIONS AT MARK.

State, Pa. and nearby—			
Fresh gathered, firsts	14¾	@	16¼
Western—			
Storage, firsts	15¼		
Seconds	14¼		
Ky., fresh gathered, firsts	14½	@	14¾
Tennessee and other Southern—			
Fresh gathered, firsts	14¼		

GREEN FRUITS.—

Cranberries, Cape Cod, bbl.	12.00	@	15.00
Crate	3.25	@	3.75
Grape fruit, Fla., box	6.00	@	8.00
Oranges, Fla., brights, boxes	5.00	@	6.00
Oranges, Fla., russets, boxes	4.00	@	5.50
Pineapples, Fla., per crate	4.00	@	4.50
Tangerines, Cal., straps	2.50	@	5.00

VEGETABLES.—

Asparagus—Charleston—			
Dozen bunches	1.50	@	6.00
Norfolk, doz. bun.	2.00	@	4.00
N. C., doz. bun.	1.50	@	4.00
California, doz. bun.	2.00	@	4.00
Beets, per bbl. crate	1.00	@	3.00
Small crate	50	@	1.00
Carrots, old, per bag	75	@	1.00
New, per 100	1.00	@	2.00
Cabbage, carlots—			
Danish seed, per bbl.	50	@	1.00
Char., new, per bbl.	1.50	@	2.25
Cauliflower, Cal., per crate	3.00	@	3.50
Celery, Fla., original, case	1.00	@	3.00
Cal., original, per crate	5.50	@	6.50
Eggplants, Fla., per crate	1.00	@	2.00
Kale, per bbl.	25	@	50
Lettuce, So., ½-bbl. basket	75	@	2.25
Peas, Fla., 1-3-bbl. basket	1.00	@	4.50
California, crate	2.00	@	2.50
Radishes, per basket	1.00	@	2.00
Spinach, bbl.	25	@	75
String beans—			
Fla., crates, fancy	2.50	@	4.50
Average	2.00	@	2.50

AGRICULTURAL FERTILIZERS.

[For explanation of fertilizer market terms see P. F. of March 14, 1903.]

AMMONIATES.

Nitrate of soda, per cwt.	2.30	@	2.35
Sulphate ammonia, per cwt.	3.15	@	3.25
Tankage, per unit ammonia.	2.20	@	2.25 and 10
Manure salt, double (48 to 49 p. c., less than 2½ p.c. chlorine), per lb.	1.12	@	1.24
Dried blood, N.Y., low grade	2.65	@	2.70
Western, high grade, fine ground	2.72½	@	2.75
Cottonseed meal, ton, c. i. f. N. Y.	27.00	@	28.00
Fish scrap at N. Y.	2.55		and 10

PHOSPHATES.

Acid phos., 12-16 p. c., unit.	60	@	67½
Bone black, spent, per ton	17.00	@	18.00
Ground bone, per ton	21.00	@	23.5

POTASH.

Muriate potash, 80 p. c., future shipment	1.83	@	1.95
Manure salt, high grade (90 to 95 p.c. sulphate potash) ship., basis 48 p. c.	2.11	@	2.20

Fertilizer Chemicals for Home Mixing
GENUINE
PERUVIAN GUANO
Analyzing 4 to 5 p.c. Ammonia, 18 to 20 p.c. Phosphoric Acid, 4 p.c. Potash.
Price, $80.00 per ton, F.O.B., New York, Baltimore, Md. or Charleston, S. C.
NITRATE OF SODA
Nitrate, Sulphate and Muriate of Potash, Acid Phosphate, etc. For prices write to
E. MORTIMER & CO., 17 William St., New York.

THE CHAMPION BUTTERMAKER
OF ALL THE ANNUAL WINTER CONVENTIONS
USES U. S. SEPARATORS.

At the Annual Meeting of the Vermont Dairymen's Association, Rutland, Jan. 6-8, 1903, there were 150 entries of butter and that of Mr. J. F. McLam, Superintendent of the Green Mountain Creamery, West Topsham, received the highest score,

98½ Points,
And Won Grand Sweepstakes and Gold Medal.

This butter was made from cream separated by factory size U. S Separators, and was not only the highest score at this convention, but, so far this season, is the

Highest Score at any State Dairymen's Convention.

The United States Victorious
IN THE GREATEST CREAM-GATHERING STATE
In the Union.

At the Nebraska State Dairymen's Meeting, Lincoln, Jan. 22-23, 1903,
The Highest Score of All was received by butter made from U. S. Separator cream by the Adams Centre Creamery, Archer, Neb.

The United States Wins in
THE GREATEST DAIRY STATE IN THE EAST.
At the New York Dairymen's Annual Convention, Jamestown, Dec. 9-13, 1902,
The Highest Score, 98 Points,
was won by the Diamond Creamery Co., Col. J. L. Hyde & Son, Props., Massena, N. Y., users of 13 No. 0 (largest creamery size) U. S. Separators, each one replacing an Alpha-De Laval or Sharples Separator.

Remember, The U. S. Holds the World's Record
FOR CLEAN SKIMMING

Vermont Farm Machine Co.,
Illustrated catalogue free for the asking. BELLOWS FALLS, VT.

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

The City of God.

JULIAN COOKE.

I have heard of a beautiful City of God,
With streets all jeweled with gold;
The walls are of jasper, the gates are of pearl,
And death enters not, I am told.

Throughout that beautiful City of God
Bloom flowers that never will fade,
And when we cross o'er the dark river
We may rest in the trees' cool shade.

Oh, City of God, 'tis oft in my dreams
Your pearly gates open for me,
And I hear white-robed angels around the great throne
Join a chorus of sweet melody.

Star of our night, golden City of God,
I see your white light drawing nigh:
Oh, will I be numbered with that angel throng,
While eternity's years roll by?

And oh, is it true, tell me is it true,
In that golden city so fair,
Will earth's unfortunate, wearied ones,
Be meted a recompense there?

Will the orphan who wanders unsheltered, unfed,
The mother o'erladen with care,
The slave who suffers a hundred sad deaths,
Receive a full recompense there?

Make it true, oh, I pray make it true,
For all those who miss a glad heritage here,
When they cross o'er the river, the deep, dark river,
May it wash away sorrow's last tear.

Farina, Ill.

Editorial Chat.

Once more we feel like declaring with emphasis that never again will we put ourself where we must judge which is best among a "stack" of articles where nearly all are "best." We have read and pondered till our head aches; we have called counsel; we have done the best we could, and here is the result, though, as we say, we are not sure that their merit is greater than that of some others.

"Spring Care of the Horse," John A. Yaney, Coldwater, Ohio.

"Market Gardening," E. V. Hartman, Roscoe, Illinois.

"Fruit Raising," C. L. Moss, Hammonton, New Jersey.

"Poultry," Miss Gracie Yost, Albion, Mich.

We want to especially thank the gentlemen for their hearty and satisfactory response, the more, as we know one paltry dollar figured not at all in their calculations. They wrote for the good they might do, and we trust of this reward they may receive in abundance. We trust that many a farm horse will have occasion to be grateful for the articles that shall appear in these columns. The incentives to fruit culture and gardening will doubtless be a blessing to many families, especially newly founded ones when the future is uncertain. As several have remarked, be sure of your market first, then go ahead. Miss Yost's poultry article is especially dedicated to "the girl at home," who wants some way of helping herself. If we were in your place we would have an incubator, if we borrowed the money to get it with, although on general principles we object strongly to borrowing. We shall crowd articles along as fast as possible.

Prize Article.

Spring Care of Horses.

JOHN A. YANEY.

It is none too early to consider the preparation of the farm horse for the spring work. Many animals have passed the winter with little work and are not in condition to render satisfactory service without some preparation. Strength and endurance are the results of proper nourishment, along with a certain amount of muscular activity. The horse may be in good flesh, yet of low power of endurance. The preparation for hard work should be as carefully carried out as that of the race horse intended for the circuit. The giving of feed without muscular training tends to develop body weight largely by accumulation of fat. Food, along with properly regulated exercise or work, develops muscle and nerve substance. Properly regulated exercise or work also tends greatly to the increase of lung power and capacity, with the result that the blood is rendered pure and vigorous. To train the animal to best advantage the exercise should be gradually increased until an amount is reached equal to the amount that will be demanded when he comes to the field. He should not be subjected to sudden changes, either in point of time or severity. The food should also be carefully selected and thoughtfully given. The material composing the ration must, of course, be governed by his condition. A ration which may be economical in one part of the country may not be so in another. Corn alone is not adapted to muscle formation, but is valuable as a producer of fat. For the horse it is best combined with wheat bran. Good oats are a standard horse food, but for use in feeding farm horses are combined with corn, or corn and wheat bran, to an advantage. Good clover hay is one of the most economical of horse foods. It should be fed slightly dampened, or in combination with ground grain evenly mixed, with just sufficient water to make the meal adhere to the finely cut hay. It is economical to have all grain fed to horses in a ground condition, provided it is mixed with some roughage, as cut hay or corn stover, to prevent the meal from forming into a paste in the stomach. If the animals do not improve, as reasonably expected, from the amount and kind of food and care, endeavor to discover the cause and remove it if possible. Do not trust blindly to some condition powder or great "cure-all" horse remedy. Defective teeth are the most common cause of poor nourishment. Overfeeding and irregular feeding are both cause of defective digestion; and again, some animals do not thrive well on a ration which answers well for many others. Make changes in feeding gradually, and never in any case feed an animal more than is eaten with apparent relish and in seasonable time. The condition of the horse's health depends considerably upon the activity of the skin, which, in its normal state, excretes much of the worn-out or cast-off products of the body. Much moisture passes from the skin, even in a state of rest, and during exercise the amount becomes visible to the eye and is known as sweat. Accumulations of dirt and the scales of the skin which are constantly being separated, tend to block the pores of the skin and interfere with their important function. By the faithful use of the brush much may be done to keep the skin in healthful condition. The rubbing serves to both remove the dirt and scales and to promote the circulation of blood near the surface. In the training of the work horse, care should be exercised to have the shoulders in good condition. The collar should be carefully fitted and the animal exercised in the collar to harden the skin. This is of particular importance in the case of the colt and the green horse. Sore shoulders are more easily prevented than cured.

Coldwater, Ohio.

Prize Article.

Fruit Raising.

C. L. MOSS.

We have many valuable kinds of small fruits and berries to grow for the market, for the canning companies and for the jelly and preserving companies, besides for the home consumption. Health and money makers they are if planted, cared for and handled with system.

Raspberries should be set out in the early fall, i. e., last of October and first of November. The ground should be well prepared and rows marked off five to six feet apart. Set the bushes three to four feet apart in the row, after which a good sprinkling of stable manure along the rows will be very beneficial in aiding a fine growth the following season. Head them back half way to two-thirds of their nursery growth; cultivate and keep clear of weeds, the same as for corn, not failing to give a good top dressing of stable manure early each spring. In the fall—1st to 15th of September—sow clover or rye between the rows. It will make a winter covering and something to plow under in the spring to make humus and plant food. In June prune the blackcaps and blackberries when they throw up the single cane like a buggy whip, with no side branches. Take a pruning shears, or a very sharp corn knife, and clip them off 12 to 14 inches above the ground and watch the number of shoots limb out. Five to ten branches will develop from each whip so treated. Now let your vines start to growing the next spring. Then head these side branches back to 5 to 12 inches of the whip, and see what a fine bush of well developed berries you will have as a result of following these instructions. Do not prune berries too early in the spring. You cannot then tell what is alive and what is dead. Cut to the live bud. I will now give you figures on an acre of blackberries. Crop, 104 crates at $3 per crate at railroad station. Berry buyers from the nearby large cities flock to our town in berry time and but few are shipped by the growers. These buyers have empty crates and baskets piled up at the station to exchange with you, and what we sell is clear, except 1 cent a quart for picking, which would be $33.28, leaving a clear balance of $278.72, outside of my own labor. From one acre of red raspberries I harvested 92 crates, 60 pints to the crate, average price $3 per crate; cost of picking, 1½ cents per quart, leaving a balance of $234.60. Strawberries were very short on account of dry spring, or no rain just when it was most needed; but got a big price for what was had. Black raspberries commanded 5 to 7 cents per quart, and cost 1½ cents per quart to gather. They pay, but not in comparison with strawberries or the red raspberries or blackberries. Plant these last in abundance; they are money makers. In saying so I speak from experience, as I have several acres of each kind. Plant plenty to sell and plenty to eat. They give health. A cordial made from the blackberries is a good blood tonic. The stewed fruit is splendid for cholera morbus. A tea made from the roots is good for bowel troubles.

Atlantic Co., N. J.

GRIP CONVALESCENCE

There's nothing better than Scott's Emulsion after the grip. When the fever is gone the body is left weak and exhausted; the nervous system is completely run down and vitality is low.

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Soap-Making at Home

One can of *Banner Lye*—10 cents—will make ten pounds of the best hard soap—better than you can buy.

It takes less time to make soap with

Banner Lye

than to make bread, and it gives you the purest soap, with absolutely no danger to person or clothes. Not old-style lye, but *Banner Lye*.

It also makes twenty gallons of soft soap.

Easy Cleaning

Cleanliness is a new word since these days of *Banner Lye*. *Banner Lye* washes away the dirt that you see and the dirt that you can't see. This last is most dangerous. It spoils the milk and butter in your bottles and jars, and when hidden in your drains and cellar invites disease.

Banner Lye cleans out all this dirt and the disease-germs therein contained. You will be surprised at the difference it makes. It is odorless and colorless.

Get it of your grocer or druggist. He can easily get it of his wholesaler, if he hasn't it already.

Write for booklet "*Uses of Banner Lye*."

The Penn Chemical Works, Philadelphia, U.S.A.

For the Sabbath Hour.

Temperance Baily, Kane Co., Ill., writes: In the P. F. of Sept. 13, '02, Sister Bundage wrote upon a subject that touched a vital truth. How true that Christian people and Christian churches do not "speak often one to another" about unhallowed marriages. I have passed my 69th birthday and can recall but one sermon where the sin was denounced. I would like to say to every person contemplating uniting themselves with an unbeliever, do not disobey a direct command of God. "Your sin will surely find you out." You cannot enter into companionship with the ungodly and not be defiled thereby. Your prayers will be hindered. Christ will not be a welcome guest in your home. Your partner and children walking the "broad road to destruction" will not cause you to have a "merry heart that maketh a cheerful countenance," but rather a sorrowful heart and a broken spirit. When I read sister B's. letter I resolved I would copy a few extracts and send to you. Think these truths ought to be proclaimed from the housetop. Today, when looking over my files of P. Fs., I noticed a story in June 14, 1890, number I would like to see re-published. God bless you in all you do and where'er you be. I think we have had a long, and to me very pleasant acquaintance. Here are a few extracts from the pen of Rev. J. C. Pike:

"There is no subject on which many professors of religion seem so inattentive to the rules of duty as on this, and deplorable are the consequences of their sin and folly. If you have already entered that union which death only must dissolve, the die is cast, and cast for life. But if you have not entered into the marriage union, then, as you love your soul, as you regard your peace, as you value the favor of your God, never form that connection with anyone however amiable, however moral, however endowed with the gifts of fortune or nature, who is not a decided follower of the Lord Jesus Christ. Marriage of those who partake of divine grace, and those who are strangers to religion, is represented in the Scriptures as the source of the greatest evils, and such unequal matches are abundantly condemned. Unhallowed marriages are represented as the cause of the dreadful wickedness which occasioned the destruction of mankind by the deluge. What rendered Solomon (the wisest of men) an idolatrous fool? His wives turned away his heart after strange Gods. What aggravated the crimes of impious Ahab? Jezebel, his pagan wife, urged him forward in his career of iniquity. Unhallowed unions were expressly forbidden to Israel of old. The Christian law is decisive and plain: 'Be ye not unequally yoked with unbelievers.'"

The Market Garden.

J. T. WALLERS.

In describing my hotbed I will commence with the hauling of manure, done by taking a load with me for three trips to my work in the garden. I piled them where wanted, then flattened the pile and packed it solid. Then made a box of 1x15-inch boards and placed it on top and threw into this box about six inches of fine, rich soil from nearby; then it was ready for the seed. This work was done as early in April as the weather would permit, and sown in cabbage as soon as finished. The box was covered with a tight-fitting sash, but cloth is better. Beds made in this way will be warmer than when manure is thrown in a pit, and the plants will be better at time of setting.

In regard to profits, I estimate from a few of the crops common to most gardeners, I will give results under my conditions and mode of treatment. On light clay soil which had been covered the fall before with manure, fresh from stables in town, I set my early cabbage plants taken from the bed described, and at rate of 9,000 to the acre. The season was very wet and sent them forward to heading with a rush, which I think caused about a third, or more, of them to rot in the stem. But I sold, in July, about 5,000 heads at an average price of 60 cents per dozen, or $250 per acre. With radishes on like soil and conditions I had (at 25c. per dozen, and 640 dozen bunches per acre) a profit of $160. Sweet corn, 12,000 ears sold, at 10 cents per dozen, brought $50 per acre. The crops were taken off the ground about the same time, and the soil where the corn and radishes had been was turned with a two-horse plow, but the cabbage ground was not re-plowed. These strips, lying side by side, were then sown in turnip seed, mixed 1 ounce with 4 pounds crimson clover. Both crops were as good as if separate, and the turnips sold at first of the season brought 50 cents per bushel, and at the last, 25 cents, which paid for all the work done, leaving a clear profit of the first crops and the land with nice green cover, is left as good as ever.

My garden of ten acres is named Rose Hill. It is mostly hill land and fair as a rose to me. From it I produce some of the very best fruits and vegetables, and have for my work (which is mostly pleasure) a profit of $40 per acre, clear of all expense.

Cambridge, Ohio.

Correspondence.

Sara E. D., Pleasant View Farm, Mich., writes: Dear Mrs. Melville: About that rocking chair. In the summer there are always two rocking chairs in my roomy kitchen. After dinner the "other half" takes one of them and I, after I have cleared away the dishes, take the other, and "Darby and Joan" have a pleasant chat. If the weather is warm we sit out on the veranda (I in my hammock) until it is time for husband to go to work. Then I wash my dishes. After supper (which is always a light meal with us) I pack my dishes away and wash them the next morning with my breakfast dishes. Yes, I can do this with a clear conscience, too. What is the use, just because you live on a farm, of our spending nine-tenths of the day fussing in the kitchen. I believe in doing what needs to be done, but we have just one little life to live. Why not sit down and read while you are watching the oven? Why not serve more simple, wholesome meals instead of such elaborate ones that tax the strength and nerves, so that when we do get a chance to change our gown and sit down to sew or read, we find we are too tired to enjoy anything? Last winter my husband cut a door through between the sitting-room and the pantry. During the cold weather I cook in the large pantry and set my dining table at one end of the long sitting room, near the pantry door. It is very convenient and does not spoil the coziness of our sitting-room in the least. Let us not make the mistake of keeping all our best things for company. Get out the silver and the prettiest dishes; use the parlor every day, even though there are children, they may be taught to be careful. If possible have music and the very best literature in the home, and the memory of these refining influences will never lose their fragrance to the boys and girls who leave the home nest to make homes of their own.

Blanche Holmes, Weir City, Kan., writes: Dear Mrs. Melville: I must tell the sisters of the H. C. of the club we have away out here at Council Corners, Cherokee Co., Kan. On October 31, 1902, Hallowe'en night, we met and organized what we call the "Social Hour Club." It is composed of eight young married couples. We have met every two weeks with one or the other of our members, and are to continue until each member will have entertained. And oh, what lots of fun we have! The evenings are spent in playing crokinole, dominoes, throwing bran bags, musical chair, etc. About ten o'clock we are invited to the dining-room, where a bountiful supply of oysters, coffee, cake, cream and other good things is served. Some have dainty lunches of candy and nuts as well, so all too quickly the hours pass. I dread to think that summer, with its short, hot evenings will soon be here, and we will have to suspend our good times until fall. Now, sisters, it is too late to organize a club for this year, but next fall, early, see what can be done in your neighborhood. You will find it makes winter pass rapidly and pleasantly.

K. I. P., Colonial Beach, Va., writes: Some years before we were married it seems my husband took the P. F., but some way dropped it. One day I found some copies and was so pleased with them that I induced him to renew his subscription. We are glad of it, and I am much pleased with the H. C. I wish to express myself on the subject, "Do Christians talk religion as much as they should every day?" They certainly do not. If religion was talked as much as finance, we would have happier homes. As to ministers talking religion while making pastoral calls, it seems to me proper that they should to a certain extent.

Mrs. A. A. Watkins, Manson, N. C., writes: I want to tell the sisters of my trip to Jacksonville, Fla. Now, doubtless some of you would like to know how one who is never very flush of pocket change, happened to go six hundred miles from home on the cars, and thereby hangs a tale which I will tell you. The Seaboard Air Line R. R. has an organization called "The Village Improvement Society." It has a chief industrial agent, who appoints four sub-agents—if he can get them—at every station along the line—two ladies and two gentlemen—who obligate themselves to look after the planting of flowers, vines, shade trees, fruit trees, etc., by everyone they can induce to do so. They also have all unsightly objects removed, such as dilapidated buildings, fences and any other object that mars the beauty of the landscape. They distribute bulbs, cuttings and flower seeds, furnished by our chief, John T. Patrick, of Pine Bluff, N. C. They "swap" among themselves, so as to beautify their own homes, and give to those who have none. Then, once a year, the chief selects some place on the railroad where we all meet to compare notes, and the president of the road gives us a "free pass" and the hotels reduce their rates to accommodate us. So this brings me to where I started. There were seven coaches full of us on our train; all ages, from gray-haired men and women to little tots in their mothers' arms. At the most interesting places the trainmen would stop for the tourists to look around, and they would swarm out like bees from a hive, and walk around for half an hour, when the conductor would ring them up and pull out again. After a pleasant experience of kind conductors, genial company and lovely weather, we arrived in that beautiful, clean, quiet city, Jacksonville, and our party put up at the Rathbun Hotel, where we had every possible attention and fare to please the most fastidious. The city is situated on the St. Johns River, and from the fourth story of the hotel we saw one of the most beautiful scenes our eyes ever beheld. The river lay like a gigantic silver belt flashing and sparkling in the early sunlight, and large patches of water hyacinth with its bright green foliage and countless spines of purple blooms, was indescribably beautiful. A large ocean steamer was plowing its way slowly to the wharf, and numbers of smaller craft were dotted over the river as far as the eye could see. Some of them were propelled by tiny gasoline engines, and—well, one will never know what is in this big world until one gets out of one's chimney corner. The meeting was held in one of the city halls, which was handsomely decorated with flags, flowers, etc. Great sprays of red wistaria were massed on the speaker's desk, and a miniature house had vines running to the tops of the chimneys, and boxes of flowers growing at the tiny windows. We had speeches from several notable gentlemen the first session; the next, reports of our work were read. At night several ladies gave instruction how to make pocket money. It was like a large family, everything in perfect harmony and everyone trying to give and receive instruction and information. We had a view of the ostrich farm and all the beautiful tropical birds and other things of interest. There is nothing like going a long distance from home to get something to think of while our hands are busy with the many things we mothers have to look after. I left home Monday and got back Friday, with many pleasant memories of new friends, and I am glad to tell you we did not hear a profane word or even smell a drop of intoxicants while we were away. That is a right good record for four hundred people from five different States. The railroad men left nothing to be desired in their kindness to us, and we will always remember the officers and employes of the Seaboard Air Line R. R., with lively emotions of gratitude.

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The **1900 Ball-Bearing Washer** is unquestionably the greatest labor-saving machine ever invented for family use. **Entirely new principle.** It is simplicity itself. There are no wheels, paddles, rockers, cranks or complicated machinery. It revolves on **bicycle ball-bearings,** making it by far the easiest running washer on the market. No strength required, a child can operate it.

No more stooping, rubbing, boiling of clothes. Hot water and soap all that is needed. It will wash **large quantities of clothes** (no matter how soiled) **perfectly clean in six minutes.** Impossible to injure the most delicate fabrics. Saving in wear and tear of clothes, to say nothing of the saving in soap and materials, pays for machine in a short time. Don't be prejudiced. This is entirely different from, and far superior to any other washing machine ever made.

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A DAY'S WASH IN 3 HOURS.

Sherwood, Md., Jan. 15, 1901.

The washer I received from you is the best I ever saw. It will do all you claim for it. I can do the washing in three to four hours, where it took a colored woman a whole day to do it. We have ten boys and three girls, and you can judge from that, that we have large washings. Myself and daughter would not part with this machine for twice what it costs. We live on a farm. Mrs. Levi H. Harrison.

GREASY OVERALLS WASHED CLEAN.

San Francisco, Cal., Dec. 25, 1899.

1900 Washer Co.

Gentlemen: I received the washing machine in good order on the 15th inst. My wife had saved three weeks' washing to try it. She commenced washing at seven o'clock and at eleven o'clock all the clothes were on the line. It would have taken two days to do the work the old way; and the washing was done clean. Greasy overalls, which I use in the engine room, could not have been done better in a steam laundry. She would not part with the washer, if she could not get another one like it if she was offered $100.

Yours truly, Chas. Blum, Marine Engineer,
1006 Channing Way, West Berkley, Cal.

15 MACHINEFULS IN 4 HOURS.

Chicago, July 18, 1900.

Last week I started to wash with your 1900 Ball-Bearing Washer. A neighbor saw me wash my little boys' waists (which were terribly dirty) and we were both surprised to see that there was not a spot left. On Monday we did a big wash of 15 machinefuls and the work was done in 4 hours. It is the best machine I ever saw (and I have tried many). It works so easy that my little boy can run it.

Mrs. A. H. Centner,
636 Diversey Boulevard.

IT IS A WONDER.

Savannah Yacht Club,
Savannah, Ga., Jan. 21, 1901.

After a thorough trial of your 1900 Washer on all kinds of washing, I think you have a "wonder." We have a very large washing, and have always had two women on Monday and one to finish on Tuesday. Our washing cost us $10 a month. With your washing machine the cook and the yard boy did the washing in 4 hours, much better than it was done before. Your washer is all you claim for it. W. M. Kidwell, Supt.

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A wonderful home remedy that quickly cures Catarrh where the mucous drops down the throat and lungs, sickening the stomach and causing bad breath and many diseases including consumption. The discoverer, C. E. Gauss, 1402 Main St., Marshall, Mich., will gladly send to any address a trial package of the remedy so you can try it at home and be satisfied that it is a genuine catarrh cure. Write to-day, it's free.

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Topic No. 569, April 25.—*What is Your Experience with Hired White Labor in the South as Compared with That of the Negro?*

Topic No. 570, May 2.—*What is Your Experience in Stacking Hay Right from the Swath, and Have You Any Home-Made Derrick That Has Proved Economical of Time and Labor in the Stacking? Do You Use Fork, Horse Fork or Sling?*

Topic No. 571, May 9.—*Give us Your Experience with Alfalfa East of the Mississippi.*

Topic No. 572, May 16.—*Cherries for Market. Have You Found Them Profitable, and What are the Most Profitable Sorts?*

Topic No 567.—What Varieties of Peaches Have You Found Most Profitable and How do You Manage Your Peach Orchard? Mention Best Two Varieties for Early, Mid-Season and Late.

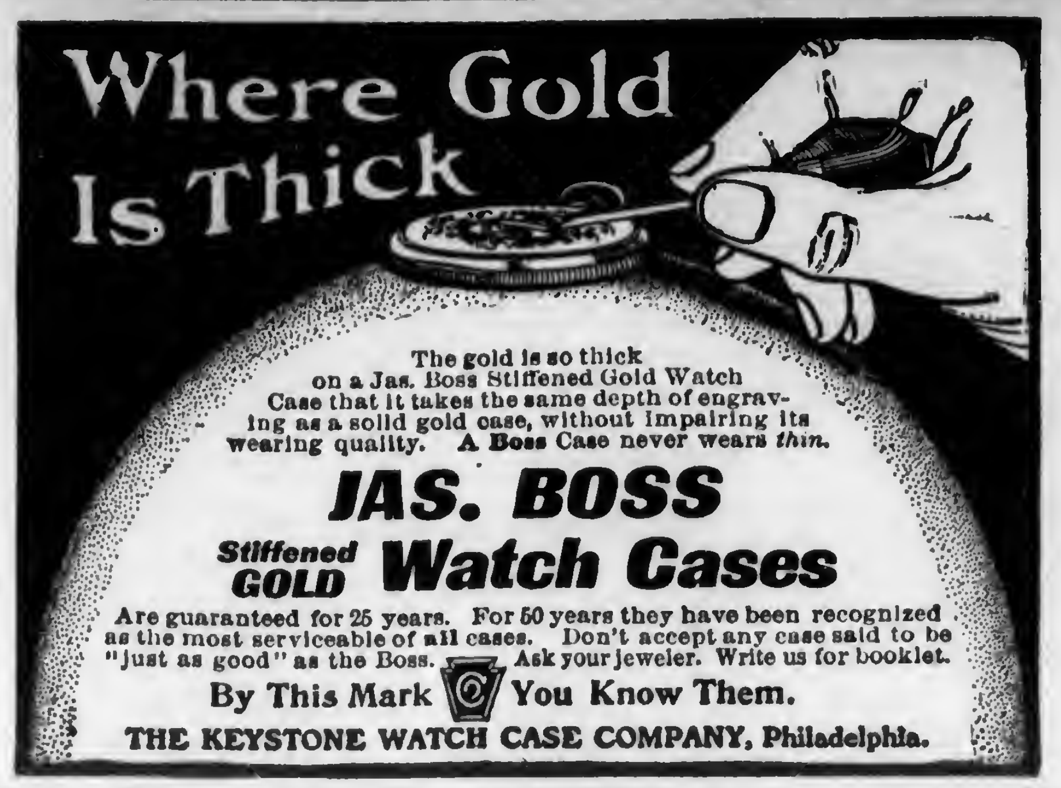
W. D. Lutshaw, Carlisle, Ind.—I have an orchard of about 1,000 bearing peach trees, and my management of it to the present time has been as follows: I first broke the ground and put it in proper condition for planting. I then furrowed it off with a two-horse plow 16 feet one way and 20 feet the other, and planted the trees at the intersections of the rows. This made my trees stand 16 feet one way and 20 feet the other. I next ran a furrow half way between the rows each way and planted watermelons at the intersections. I gave the trees and melons good cultivation, and as a result, I got a fine growth on the trees and a crop of melons that more than paid for the trees. The second year I again planted to melons and gave good cultivation. This crop of melons was not so fine as the first, but was a fair crop and the trees made a splendid growth. The third year I sowed the orchard to cow peas, which made a fine crop, and the trees also made a good growth. After picking sufficient cow peas for seed I turned my hogs in on the remainder. The fourth year I gave clean cultivation until the first to tenth of July. This year the trees bore a light crop, the Triumph leading, both in earliness and amount of crop. The yellow St. John was next to ripen and was not a satisfactory crop either in quantity or quality. Lady Ingold came next, and produced a fair crop of fine peaches, which sold readily at a good price. For early varieties my choice is Triumph and Mountain Rose; for second early I would choose Elberta and Globe, and for late my choice would be Crawford Late and Wheatland. The fifth year I gave my orchard clean cultivation until August. The fruit buds all being killed there was no crop this season. The orchard should have been sown to rye after cultivation ceased, but this I failed to get done. This, the sixth, season, I intend to give clean cultivation until June then sow to cow peas. After picking enough peas for seed I shall pasture the remainder off with hogs. I shall then disk the ground up thoroughly and sow to rye as a winter cover crop. As the orchard has borne but one small crop, and that only on part of the trees, the amount of mineral elements removed from the soil is so small that I have not resorted to the use of commercial fertilizers. I have thus far depended upon the natural fertility of the soil, good cultivation and a small amount of barnyard manure for the growth of my trees. Should I get a good crop of peaches this season I will use as a fertilizer an amount of muriate of potash and acid phosphate sufficient to restore the mineral elements removed by the crop, depending upon cow peas to furnish the required amount of nitrogen.

D. D. Tryon, Pulaski, N. Y.—Only the hardiest varieties of peaches are profitable here. Crosby and Barnard's Early are our most profitable varieties, closely followed by Elberta, Lemon Free, Champion, Kalamazoo, Hill's Chili and Fitzgerald. Alexander and Early Rivers are the hardiest of all, sometimes bearing good crops when nearly all others fail, but are so susceptible to rot in unfavorable seasons as to be worthless for market purposes. Haynes' Surprise and Lewis are nearly as hardy, but have the same fault. Crawford's Late, Globe and Stump are always unproductive here, making a great growth of wood, but developing very few blossom buds. Stephens Rareripe I have tested in a small way, and find it to be a very productive and profitable late peach, similar to Oldmixon, but larger and more productive than that variety, and very hardy, and should be more generally planted. Waddell, Hiley, and Grave's Early, of the newer varieties, I consider most promising, but have not thoroughly tested the same. I plow the peach orchard both ways and plant to beans, potatoes and strawberries for the first two or three years; after that sow to buckwheat and plow the same under for the benefit of the trees. I would recommend for this section, Greenboro and Carman as the most profitable early varieties, although Champion is nearly as good; Barnard's Early and Elberta for mid-season, and Crosby and Lemon Free for late. The profit in peaches here depends more on the hardiness than on other qualities, and probably the Crawfords and other varieties would be better in other sections of the country.

B. C. Grant, Corunna, Mich.—Peaches can be grown in nearly every State in the union and in almost any part of any State. Of course care must be taken to select the right kind of site, to plant varieties adapted to the climate, etc. Peaches in large orchards, for commercial purposes, is quite another matter. Located in Central Michigan, I find the following varieties are suited to this climate: Champion, beyond a doubt, is the best early peach; fruit and buds are extremely hardy; has stood 18 degrees below zero and produced a full crop the following summer; fruit often 8 and 10 inches in circumference; quality A No. 1. Alexander is a good second; tree vigorous and productive. St. John and Elberta are a good medium; they are perfectly hardy in this climate and I believe are of the best fruit for home use or market. For late, Fox's Seedling is a good variety, and Beer's Smock is planted extensively and is one of the best for shipping. I find that peaches are more successfully grown on sandy hillsides. A northern exposure is considered better than a southern one, this being due to the fact that the northern exposure will somewhat retard the opening of the blossoms, and in this way orchards will escape late spring frosts. I believe it is best to plant trees not closer together than 20x20 feet. The selection of the trees themselves is a matter of great importance. The trunks should be smooth and well grown and the roots abundant and as little injured as possible. The holes in which they are set should be of such dimensions that it will not be necessary to twist and cramp them in planting. The trees should not be set deeper than they stood in the nursery row. In buying trees the planter will do well to deal only with nurserymen who have by honest dealing gained a well merited reputation. It is better to pay two prices for trees of an assured character than to take as a gift trees from doubtful sources. Experience teaches us that but one crop can be successfully taken from the soil in a given time, therefore it is my policy to grow peaches on the ground selected for them, and not in connection with some other crop. I believe in keeping the soil stirred from early spring until late autumn. Deep plowing should be avoided. Opinions differ as to the proper method of pruning; some growers prune the trees so that the main trunks are 4 or 5 feet high. I believe it is much better to make them branch low in vase form. The man who will not properly thin his fruit, and will not properly grade it, who puts the culls in the centre of the package, will not make a success of peach culture.

Walpole Nockolds, Oakley, Tex.—The most profitable varieties of peaches here are Mamie Ross, Family Favorite, Elberta, General Lee, Onderdonk, Texas, Honey, Alexander and Oldmixon Cling. With regard to the management of orchard, ground should be put in finest tilth possible before setting trees. I use the equilateral method for setting trees. For trees 20 feet apart, the distance I allow mine, I lay off rows 17 feet 4 inches apart, then check with rows 10 feet apart and plant in alternate checks in first row, then miss a check to start next row, breaking joints as it were; then each tree will be exactly equidistant 20 feet. Dig holes with spade or shovel, 2 feet wide and 1 foot deep, throwing top dirt by itself, to put around the roots first. I cut off all injured roots and spread the rest out carefully, fill in dirt and tramp thoroughly, then cut tops down to 16 inches and cut off all limbs. As soon as possible after planting I run around them with my Planet Jr. wheel-hoe, using the shovels; this prevents evaporation of moisture. One or two pounds of a complete fertilizer may be applied yearly to each tree, scattering broadcast in a circle close to trees and working it in as they are cultivated. The first two or three years after planting, low growing crops, such as tomatoes, beans, peanuts, etc., can be grown early, and after they are taken off, I plant cow peas, gathering the peas and leaving vines; early in the fall sow crimson clover and then turn under pea vines and clover in spring. I never plant closer than 6 feet to trees. Cultivate after every rain if possible. I use the Planet Jr. wheel-hoe close to the trees and heel-sweeps or cultivators (one horse) for the middles. When growth begins, rub off all buds except three or four at top of trees; also rub off all others that start during the summer. If proper attention is paid to this very little pruning will be needed. At first pruning in winter, shorten back limbs and allow no sappy sprouts in centre of tree, rubbing them out as they start. Thinning the fruit is not practiced much here, but is an advantage; as a rule, the fruit should not be closer than 4 or 5 inches. Don't thin till after the pits have hardened some, as many drop in thinning. The best two early are Mamie Ross and Family Favorite; mid-season, Elberta and General Lee; late, Onderdonk and Texas.

C. L. Moss, Hammonton, N. J.—The peach tree is the shortest-lived of all our fruit bearing trees, but by experience and the right kind of treatment I find the peach tree may be made to bear profitably for a long time. Thorough plowing, cultivating the trees the same as other crops, very judicious pruning and cutting back the growth of wood will tend much to this end. Keep the land up. Spread a little stable manure and a handful of bone meal around the roots of each tree; a half gallon of wood ashes is helpful. In setting out trees I examine roots to see that there are no borers in them. Dig a hole 18x18 inches 20 inches deep; scatter the bottom soil and fill up the hole with top surface, seeing that roots are properly pruned and placed with fine alluvial soil and well tramped. The bodies of the trees should be well whitewashed the last of May, as it helps much to keep the borers out, which are deposited in the hot days of June. Cow peas may be sown in spring and plowed under in time to sow clover or rye for a winter cover, and so keep the land up. If too thick, the fruit should be thinned out in June. Try one tree and take notes. The fruit should also be graded. I ship firsts in double box and wrap with tissue paper; seconds in peach baskets. Spraying is very necessary for success. Bordeaux mixture for rot, whale oil soap emulsion or pure lime will keep the scale in check about as successfully as anything I can use. The following varieties are the six kinds that I grow for continuous peach crop: Elberta, last of July; Mt. Rose, first of August; Early Crawford, middle of August; Oldmixon, last of August; Stump the World, first of September; Late Crawford, middle of September. These are all good standard sorts, and one will not make any mistake in the amount of these kinds that they may set out if they can care for them properly.



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E. J. Adkisson, R. R. 13, W. Nashville, Tenn.—We have tried many kinds, but the best we have had to fruit as yet are, Early Alexander and Amsden, practically the same, Much superior to Sneed, larger, better and as early. [You can hardly have Sneed correct, for it is very much earlier than Alexander. Ripens here the last of May.—Ed.] Second early: Stark Heath; bears good crop every year: excellent. Medium late: Chinese Cling, Elberta Free, Thurbur Free; all fine; little choice between them. Late: White Heath Cling and Stump the World. We have a good selection of the newer sorts that should fruit this year. Will report on them to P. F. We now head our peach trees low, only about 10 to 15 inches of stem. Prune the older trees severely. Grow cow peas and melons in the orchards. Try to keep the root borers out by "going for them" with knife and wire, and we have good peaches and plenty of them.

I. W. Bryan, Dillon, Ga.—Very early and very late varieties of peaches pay best in this section. Alexander and Crawford's Early for two early varieties. Elberta and Fleitas or Yellow St. John for mid-season, and Heath Late White and Albright for late. My soil is a sandy loam and well adapted to peach growing. I buy one-year-old trees, cut them back to 18 to 25 inches stem, trimming off all branches. I prefer to plant in the fall, but have set out peach trees as late as April 1st. I head my trees low and every fall cut back every branch from one-third to one-half of the new growth. Set trees 20x20 feet, and every summer drill in cow peas, three rows between each row of trees; cultivate twice in season with Planet Jr. Gather the peas, but leave vines on the ground and the next spring turn under the pea vines and again drill in cow peas. Clay peas preferred. I never set out my peach trees in new ground, but cultivate in corn two years before setting out the trees. Whenever possible I give my peach trees a top dressing of ashes at least every third year.

Ellsworth H. Mish, Inwood, W. Va.—The most popular early varieties in this section are the Greensboro and Alexander, ripening about July 1st. The Elberta and Fox Seedling, ripening in succession from August 25th to September 20th, are two very good varieties. The finest Elbertas are usually packed in carriers, owing to their enormous size, fine quality and the fine appearance which they present. The Ford's Late and Bilyeu are two good late varieties, and generally find a fairly good market. Peach trees should be wormed once every year and cut back the second or third year to prevent an overgrowth and the giving of a straggling appearance. The trimming should be done during last of February and March, using little hand clippers (which can be purchased at any hardware store for about 50 or 75 cents) to trim out all the small dead limbs and cutting the lower limbs back. When plowing trees you should be careful not to bruise the bark and tear off limbs; to prevent this make a short singletree to use instead of long ones.

W. F. Grabs, King, N. C. — The Sneed peach, ripening as it does, by June 10th, and being of excellent quality, comes in as first choice. Perhaps Carman would merit a place next to the Sneed. The Everbearing peach is a wonderful peach; one of the varieties that should be in every orchard. Perhaps Lady Ingold could be classed with the Everbearing as to a choice, these two varieties being of fine flavor. Albright's October is a very fine late peach. Hawkins' Winter might come in right here, too. If one can have a choice of locations better plant the peach orchard on an elevated spot. Rows for the trees should be laid off with a plow, and deep furrows should be plowed out for the rows. This systematic plowing will save work all during summer. The young trees might be planted, say, not more than 10 or 12 feet apart in the row. To fight the borers one way is to keep gravelly earth packed closely around the trees during summer. This earth should be removed about the beginning of cold weather, so that the cold can strike the borers and freeze them out. And besides this, hot water may be poured in late in winter before the earth and gravel is packed in place again. While the peach trees are young one may do well with them by studying how to not trim, and then later on, as they grow older, he may do better by studying how to trim.

[Better prune properly from start.—Ed.]

Mrs. A. A. Watkins, Manson, N. C.—We have a lot of fine peaches, but as the orchard was planted before the war, and all the young trees come from seed of the old ones, we do not know the names. Many of our trees have been bearing for forty years, and when one dies from old age a young sprout comes from the root and the peaches are the same quality only much larger in size. I think every one does not know that a tree that is not grafted will reproduce itself without grafting, and a grafted tree will not; also that a grafted tree will not live half as long as a seedling. The quality of peaches depends as much on cultivation as any other crop. The orchard that is plowed several times in the summer has much finer fruit than if plowed once. It will answer to have small grain in an orchard if one is careful to keep down all weeds after the crop is harvested. Under a peach tree should be kept as clear as a garden walk. I have two trees exactly alike; one is in the field, the other close up in the corner of the garden where a plow cannot go. The first bears bushels of the finest peaches, the other not half as many, and though they look alike the peaches are almost tasteless. Sometimes a tree will grow where the land is too rich; in this case the soil should be scraped off and replaced with the poorest soil that can be found. Bank it up above the level to keep drainings from settling around the roots. A peach orchard should be planted on a northern exposure. This keeps the trees from blooming so early, and saves the crop from the frost. It is said that if one will split the bark at the roots in spring, and put in eight or ten grains of calomel, and wrap a cloth around to keep it in, the peaches will be free from worms. I will try it on a tree I have that never had a perfect peach, and report results. The large yellow clingstones I find sell better canned than any other, as I have more orders for this kind than I can fill. I only have two bearing trees of this kind, though I sometimes can a hundred and fifty cans for a neighbor on shares.

SUMMARY.

We have little criticism to make of the papers in general. The preferences of growers of any fruit will, of course, vary with their locality and soil, and a variety that is most profitable in one section of the country may utterly fail in another. The earliest of peaches, aside from the Florida Peento and its class, is the Sneed. This peach ripens at Raleigh, N. C., about the last of May. In the more elevated western section of that State it ripens June 10th, according to one of our correspondents. Though not a high quality peach, and decidedly lacking in color, the Sneed is a better and more profitable peach than the Alexander. It has the same fault with all the class of ripening from the outside while still hard next the seed. In fact, all the extra early peaches, such as Hale, Rivers and Beatrice, are very inferior and subject to rot, and while they pay well in the South for Northern shipment, we would never plant any of them for home use. Where we plant for home we want quality. Therefore in the family orchard we would, for the earliest, go back to the old Tillotson as the earliest. It is small, but high colored and looks like a peach, while none of the new extra earlies do. Then Mountain Rose, Carman, Camelia (very like Carman), Reeves's Favorite, Mary's Choice, Oldmixon Free, Lady Ingold, Elberta, Ringgold, Heath and Chair's Choice will run the season through with good fruit. Mrs. Watkins may be satisfied with peaches grown in the way she describes, but we prefer to plant known varieties, and hence always budded trees since in that way only can be gotten the same variety. Volunteer seedlings may, or may not, bear good fruit, and it is far more profitable to plant, and cultivate well, varieties known to be good, even if they do not bear for forty years. We had rather plant a new orchard every four or five years at any rate. Now as to the calomel in the roots. Mrs. W. had as well use the same amount of sand. Calomel is insoluble and will have no effect on the trees at all. The notion that chemicals can be taken up by a tree and produce an effect on it is an old but erroneous one. Keep your peach trees headed low and cut back regularly so as to distribute the young wood through the tree and prevent its getting all out at the ends of the limbs. We cut the peach trees back to 20 inches from the ground at planting. Cut all the roots back to about four or five inches long, as the young roots start more readily from the smooth cut root than from the dried-up fibres. When the tree starts to grow, let three or four buds at the top grow to form the head and rub off all the rest. Watch for the borers spring and fall, and take out all that get in. As a preventive paint the stem a foot above the ground with good white lead paint in the spring. Plant in an exposed location to keep the trees back in spring. On part of our trees we are trying no cultivation, but mulching with forest leaves and manure and mowing the weeds and grass during the summer. The rest of the trees are cultivated till July and then planted with cow peas in rows. So far I can see no difference in the health of the trees, and the uncultivated ones on the sunny side of the orchard bloom later than those down the slope to the north. We will have more to say of this orchard hereafter.

Our Barter Column.

Advertisements will be received for this column from our yearly subscribers only. Only advertisements of farms for sale, articles for exchange, help wanted, positions wanted, etc., will be received. Charge 1 cent per word for each insertion. No advertisements of less than 25 words or more than 10 agate lines will be admitted to the column. This column will appear each alternate week.

Special Notice. The farms advertised in this column must be the farm of the advertiser, and not placed in his hands by another person for sale or exchange. No advertisements from Real Estate Agents will be accepted for this column; they must go in our regular advertising columns at regular rates.

Scotch Collies. Bitch in whelp $15; trained dog 4 years old, $12; puppies, $3 to $10. Exchange for Duroc Jersey Pig. WELLMAN, Deerfield, Mass.

For Sale cheap, or will exchange for modern garden seed drill or offers, a nearly new all steel hay rake. M. FRANK TABER, R. F. D. 3, Salem, Ohio.

Eggs to exchange. Pure S. C. Leghorn "White" to exchange for brooder in good condition. Eggs, $1.00 per setting of 15. MRS. J. E. CLARK, Waddle, Pa.

Farm Raised Barred Rocks, finest strain of winter layers. Eggs to exchange for pheasants or eggs. STEVENSON'S NURSERY AND POULTRY FARM, Fordyce, Ark.

Wanted. Good farm hand. Must be sober, industrious, willing. Good wages for good man. Address W. T. BARRACKMAN, R. F. D. 2, Decatur Macon Co., Illinois.

Pure Barred Rocks. Will exchange for seed corn, potatoes, cow peas. Birds, $1.50. Eggs same per clutch. Address with stamp. NEANDER STEPHENS, Bank Lick, Ky.

Position wanted in creamery or on dairy farm by experienced butter maker, graduate of Pa. dairy school. Industrious and sober; good reference. Address Box 63, Middletown, Del.

Farm Hand Wanted to work a few acres and help look after other property. Good position and chance to advance for right man. Give wages and reference. DR. WELLS, Nanuet, N. Y.

A Yearling pedigreed male Scotch collie, to exchange for thoroughbred Berkshire sow. A pure white female collie pup to exchange for Berkshire female. CHAS. BENNETT, Goodman, Va.

152-Acre Farm for Sale. Good improvements; lots of fruit. Wheat and oats main crop. 2½ miles west of Perry the county seat. Price $8200.00 or $7400.00 August 1st. CHAS. BOYLAN, Perry, Okla.

For Sale. Farm in Fairfield Co., 5 miles from R. R., 12 from Bridgeport. 32-acre meadow and pasture; good buildings; never failing well and spring. High and healthy location for summer home. Sold cheap for cash to close estate. Address JOHN Z. MELLEN, R. D. 52, Bridgeport, Conn.

Chance for married farmer, without children, to work a farm on shares permanently. Farmer must have three good horses, harness and about $200 for seeds and expenses. Owner will furnish implements, cattle, poultry and household goods. Address with full particulars H. OSWALD, So. Bound Brook, New Jersey.

For Sale. 1,000 acres—15 cleared—balance timber. Will cut 1,000,000 feet lumber. Good grazing for 350 cattle. 600 acres can be plowed. 2-room house; 2 cisterns; 640 acres under fence. Plenty springs. Will make fine cattle, sheep, goat, hay or fruit farm. 6 miles from Richland. Healthy climate, fine water. Title perfect. Price, $6,500. Address E. MUTH, Richland, Missouri.

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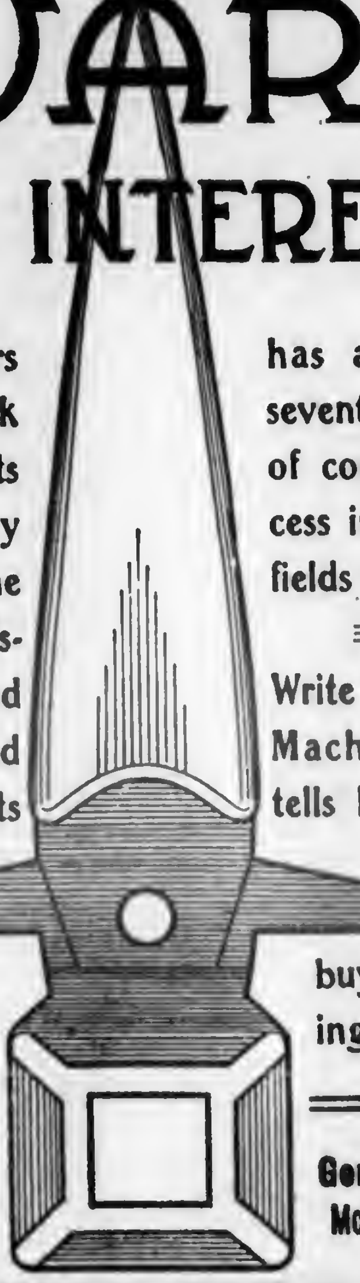

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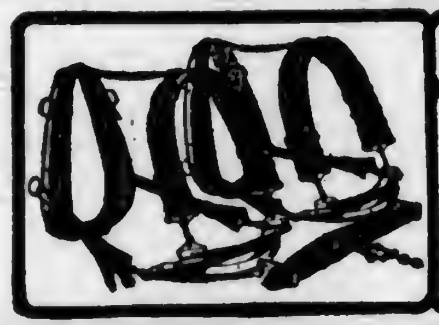

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B. F. BAKER CO., 226 Main St., Burnt Hills, N. Y.

DIBBLE'S SEED POTATOES grown on virgin soil in the cold North, produce larger and better crops than those from any other source. All the new and standard varieties, grown from selected tubers especially for Seed and stored in our own frost-proof storage houses hold the stock free from sprouts till planting time. Our potatoes grown largely on our Genesee Valley Seed Farms (960 acres) are the best obtainable. Prices lowest consistent with highest possible quality. Write for our handsome illustrated catalog. Ask also about our *Seed Corn* and *Seed Oats*.
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GRASS SEED for PASTURE,
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Our AMERICAN FARMERS' MANUAL for 1903, a book of 44 pages (85 illustrations) devoted entirely to Grass and other Seeds for the Farm, mailed free on application to those who state where they saw this advertisement. Correspondence invited.
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Greatest, Cheapest Food on Earth for Sheep, Swine, Cattle, etc.

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Billion Dollar Grass will positively make you rich; 12 tons of hay and lots of pasture per acre, so also Bromus, Peacot, Speltz, Macaroni wheat for arid, hot soils, 63 bus. per acre. 20th Century Oats, 250 bus. per acre and Teosinte, Yields 100 tons Green Fodder per acre.

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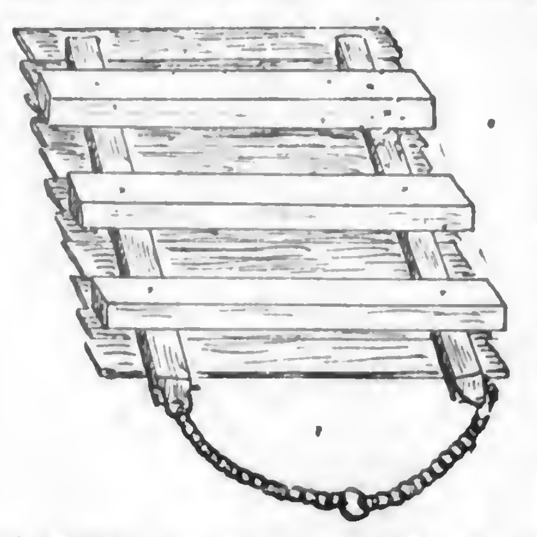
SHORT CUTS.

BY PRACTICAL FARMER SUBS.

All other trades have resorted to "Short Cuts." To be successful farmers must resort to them, too. In this column we will publish all actual labor saving short cuts made by the farmer on the farm and the housewife in the home. Write and tell us of any labor saving tool you have made, of any method of management or manner of using implements to save time, labor and money, or increase their efficiency. Even the smallest things may be useful and valuable. Hints and helps in the household are always welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Write on postal cards and make articles short. All errors will be corrected by the editor. Address all communications under this head to T. Greiner, La Salle, N. Y.

Handy Drag.—This is just the combination of two very common kinds. It is made by using 4x4 to spike planks to in the ordinary lap fashion, and then on top of drag spike three or four 4x4s as shown. The advantage of this is that you have two implements in one. If ground needs pulverizing and packing, the lapped planks will do it, but if it is rough and uneven just turn drag over and you have one of the best levelers known. Make one-horse drag 3 feet, 2-horse 6 feet, 3-horse 9 feet and 4-horse 12 feet. Two-inch planks should be used, and should be about 8 inches wide. Drag can be made as wide as one wants to but about 3 feet is a good width. JAS. SHRADER.
Muncie, Ind.



How We Haul Corn Fodder. — Take the front part of the farm wagon and put one end of two long poles on the bolster, one against each standard and the other end of each pole on the ground; then put 1x3 strips across and nail them to hold poles in place and nail on standards and all can be ready in a few minutes for hauling fodder rapidly and conveniently. Poles 15 to 18 feet long are about right and will hold a good load.
Chambersburg, Ind. WM. T. WRIGHT.

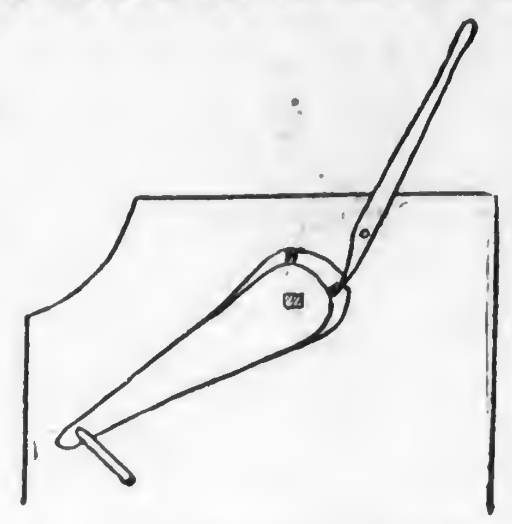
Wire Stretcher.—Take a 1¼-inch steel bar 6½ feet long. Make claws, hammer-like, on one end. The other end can be sharpened and used as post-hole digger, also for other purposes. It is always ready for work; never out of order. The long lever gives you plenty power to stretch 20 to 40 rods perfectly tight. I have used mine 16 years and I have not seen anything yet that would even compare with it for all kinds of work.
Pierce City, Mo. S. BAUMGARTNER.

To Hang Hogs When Dressing.—The easiest method that we have found, when help is scarce and no hoisting implements at hand, is to take your wagon and remove the box, then put stout plank on wagon, lay two planks down from side (or end) to roll hog on wagon. Then roll wagon where you want to hang. Roll wagon under hanging beam, then get up on planks and stand hog on his head and his feet are where you want them. Now remove plank and wagon and your porker is swinging. In this way two men can hang a hog weighing 400 pounds without great effort. T. A. COOK.
Corbett, Ala.

Marking Fruit Package.—In shipping fruit and farm products to market, next to an attractive, clean package, suitable, neat markings are quite important. Stencils are a very convenient short cut to be used for the purpose, and save time and work when a quick shipment is to be made. An outfit that will answer all purposes can be made on stormy days and evenings, and the work is certainly quite fascinating. New stencils and patterns can be cut out as they are required. Thin sheet brass is generally used for them, and it is cheap; but zinc is easy to cut and can be used where brass cannot readily be obtained. Stout manila paper can also be used where the stencil is not to be greatly taxed. Very few tools are required for the work; a block of hard-wood with the end grain, several small chisels and gouges that can be easily made of 20-penny wire nails, and a small hammer, are about all that are needed. Select an easy style of letter to cut, and be careful to leave interrupting lines to join and strengthen the upper and lower parts of those letters requiring them. A letter without a hair-line, that printers call a Gothic, is suitable, and can be varied by a Gothic italic. Stencil ink is made with any dry color or lamp black wet up thick with a thin glue and then baked. A stiff brush with the ink rather dry, will make best job.
Angwin, Cal. WILLIAM C. AIKEN.

Repairing Fences.—This is the way I fix our post and picket fence: If a post is rotted off, instead of propping it up with a rail piece slanting out about 2 feet at the bottom, for the singletrees and other implements to catch, I wait until the frost is out, when the ground is soft and easy to dig. I take a good stake about 2 feet longer than the fence is high, sink it straight down close to the post, and nail or tie it to the fence. It lasts for years that way. JNO. F. ZOOK.
Belleville, Pa.

Governor for Windlass.—A handy device for controlling a windlass is made as follows: From a piece of wood as large as a wagon spoke, cut a stick about 3 inches longer than your windlass handle. Bore a hole about 3 inches from larger end and another through well frame for a bolt. Have this hole where your piece can rest on top side of windlass when bucket is lowering. Taper large end like a sled runner, to 1 inch at tip. Cut three or four notches in windlass large enough to receive this tip end. Bolt piece to well frame. The governor is pressed on windlass when bucket is going down; glides in same position when it comes up; is thrown back as shown in cut when bucket is up, and holds it there.
Earlegville, Tenn. CLIFFORD G. HOWELL.



To Prevent Hogs Rooting. — The cheapest and best way that I have found to prevent hogs from rooting is to ring them with Decker Mfg. Co.'s hog rings. A box of 100 rings and ringer costs 25 cents. I have a piece of ⅜-inch rope 6 feet long, with a slip noose on one end. Feed the hogs in trough and place the slip noose on the hog's upper jaw, or snout, taking care to get it back about 3 inches, or back of the tusks; hitch the other end to a post or beam and Mr. Hog will simply pull back, shut his eyes and squeal. Place the upper point of the ring immediately behind the rim of the hog's nose (directly in the centre) and the lower point as far down as possible on the end of the nose. By this means the ring will be filled when closed. One man can ring the hogs alone. I have rung a dozen in less than one-half hour. Have used the rings for the past ten years without any bad results, and would not know how to get along without them. JOS. E. FISCHLER.
Spicewood, Pa.

To Tie a Hog.—Tie one forefoot then draw foot draw foot up close to side, let rope come across back and tie the other forefoot, drawing it up to side, then tie hind feet as you would a chicken. T. C. HARRIS.
Greenwood, Ark.

NO MAN IS STRONGER THAN HIS STOMACH

When Sandow poses and the muscles ridge his back and knot his arms, we think we have before us the very secret of strength in those magnificent muscles. But we haven't. Starve Sandow, or, what is practically the same thing, let him be dyspeptic, and his muscle would soon fail. Strength is made from food properly digested and assimilated, and no man is stronger than his stomach, because when the stomach is diseased digestion and assimilation are imperfect.

Dr. Pierce's Golden Medical Discovery cures diseases of the stomach and other organs of digestion and nutrition. It enables the perfect digestion and assimilation of food so that the body is nourished into perfect health and strength.

"I had what my physician called indigestion. He gave me medicine for the trouble but it did me no good," writes Mr. W. H. Wells, of Willard, N. C. "I wrote to Dr. Pierce and stated my case. He sent me a descriptive list and hygienic rules. I carried out these as best I could, bought six bottles of his 'Golden Medical Discovery' and commenced taking it. A few days later I noticed a great change. Felt like a new man. Before I began the use of the 'Golden Medical Discovery' I suffered greatly with pain in stomach, my nerves seemed all 'run-down,' I was very thin in flesh, but now can eat heartily and sleep good at night."

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Fence Shipped in the roll if preferred. Prices reasonable, quality considered.

There's Economy in using "Eagle" Barb Wire. 100 pounds measure 148 rods, or 220 pounds to the mile. Made of high-grade steel wire, galvanized; barbs three inches apart, making it the best. We can make immediate shipment. Get our special close-to-cost prices, delivered. Catalog of Farm, Lawn and Poultry Fence FREE. CASE BROS, Colchester, Conn.

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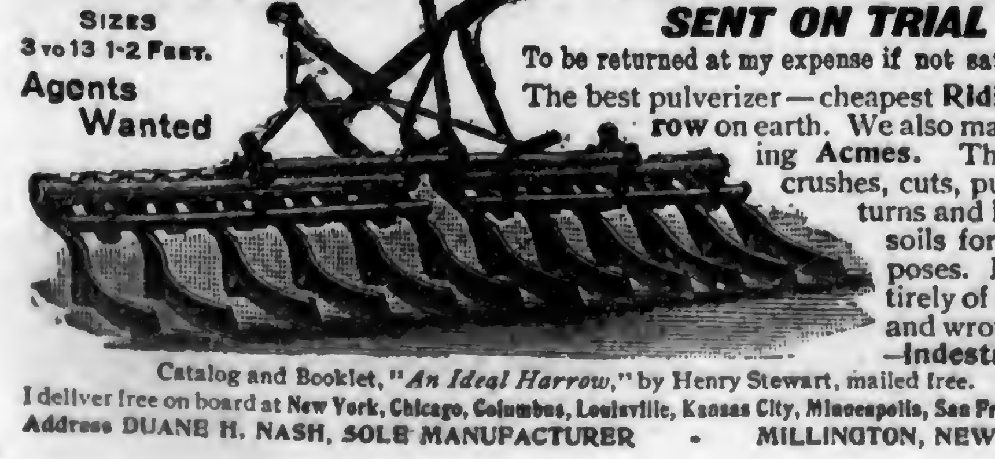

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This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

Located in Dickson Co., 4 miles from Dickson, the county seat. Land fairly good, and worth from $8 to $40 per acre. Wheat and oats looking well. Crops short last year on account of drought. Prices are as follows: Wheat, 80c.; corn, 60c.; oats, 60c. per bu.; eggs, 13c. per doz.; butter, 20c. per lb. Not much farm work being done. Plenty of rain since November. We take the P. F. and think it is the best farm paper we take.
VAN SPRINGER.
Dickson, Tenn., March 28, 1903.

Located in Central Michigan, 75 miles northwest of Detroit, on the D. G. H. & M. R. R. Good farming country, good schools, churches, etc. We have pure water and plenty of it for live stock and other uses. We have had nice spring weather for nearly two weeks, freezing but one night. Farmers are building wire fences. Not much wheat sown last fall, but that which was sown is looking good. Farmers are raising lots of hay and sugar beets, and lots of live stock is kept. Farm help is scarce; wages, $22 to $30 per month and board. Prices: Butter, 16 to 18c. per lb.; eggs, 15c. per doz.; potatoes, 50c.; apples, 50c. per bu.; hogs, live, $7 per cwt.; chickens, 9c. per lb., live; oats, 35c.; wheat, 73c. per bu.; hay, $12; straw, $5 per ton.
R. C. GRANT.
Corunna, Mich., March 30, 1903.

Located about 55 miles northwest of Columbus, O., in Hardin Co. We have a good level farming country. Soil very productive if handled right. Good roads, good schools and churches. Nearly everybody has telephones. Have had a very mild winter. Winter wheat promises to make a good crop. Prices: Land, $40 to $60 per acre; horses, $75 to $200 each, and scarce; cows, $30 to $50 each; wheat, 75c.; corn, 41c.; oats, 35c. per bu.; beef cattle, 4 to 4½c.; hogs, 7c.; lambs, 6c.; old hens, 9c.; turkeys, 12c.; butter, 15c. per lb.; eggs, 12c. per doz. Farm help scarce and high priced.
F. E. SCHRIVER.
Marseilles, O., April 1, 1903.

Located 13 miles south of Buckhannon, the county seat. This section is rough and hilly. A variety of crops are grown, but not enough for home use of many kinds. Prices are about as follows: Horses, $50 to $150; cows, $25 to $50 each; shoats, 7 to 8c. per lb; sheep, $2 to $5 per head; corn, 75c.; oats, 60c.; buckwheat, 70c. per bu.; chop feed, $1.40; corn meal, $1.35 per cwt.; flour, $4.40 to $5.20 per bbl.; wheat bran, $1.25; middlings, $1.50 per cwt. Season nearly two months ahead of time. Good prospect for fruit if not killed by frost; am afraid it will be, though.
FREDERICK SPIKER.
Ten Mile, W. Va., March 30, 1903.

Located in Western Pennsylvania, in central part of Armstrong Co. Have had a very pleasant winter. The result is grain is looking fine. Stock wintered well and very little sickness among the people. Quite a good bit of plowing done. Some clover seed sowed and up, but greater part to sow yet. Not many fat cattle here. Horses pretty well gleaned at fair prices. Hogs not very plentiful. A good many sows due to farrow soon that will add to the number of porkers. Produce: Wheat, 70c.; corn, 60c.; potatoes, 65c. per bu.; chickens, live, 10c.; butter, 28c. per lb.; eggs, 16c. per doz.
M. P. LOWRY.
Mosgrove, Pa., March 31, 1903.

Located in Warrick Co., 8 miles from the Ohio River, and 5 miles from Boonville, the county seat, which is a town of 4,000 inhabitants. This part of the U. S. is located in what is called the bituminous coal belt, consequently we have an abundance of cheap fuel, coal ranging in price from $1 to $3 per ton. The prices of farm produce at present are: Wheat, 70c.; corn, 45c.; potatoes, 50c. per bu.; hay, $12 to $16 per ton; eggs, 11c. per doz.; chickens, 9c.; butter, 12 to 20c. per lb. Growing wheat bids fair for abundant crop. They are beginning to organize local unions of the American Society of Equity, headquarters at Indianapolis, and this seems to be very necessary, as they can aid each other better by organizing than not. At present it is very warm, growing weather for March, with too much rain for general farming.
SAM'L EDWARDS.
Chandler, Ind., March 31, 1903.

Located in Southwestern Oregon, Coos Co., 12 miles northeast from Myrtle Point, a thriving town of six hundred inhabitants. Winter has been rather severe for this country. This is the place for homeseekers; good ranches can be bought for from $3,000 to $4,000. This is a great dairy country. Farm labor, $30 per month and board; logging camp hands get from $40 to $60 and board per month; girls, $2.50 to $3 per week; stock of all kinds high; wheat, 70c.; oats, 50c. per bu.; rolled barley, 1¼c. per lb.; eggs, 15c. per doz.; bacon, 12½c.; pork, 7c.; beef, 4c. per lb. Good luck to the P. F.
D. C. KRANTZ.
Gravelford, Ore., March 25, 1903.

Situated in eastern part of St. Charles Co., opposite Alton, Ill.; known as Missouri point, between the Mississippi and Missouri Rivers. Soil very fertile; yields from 30 to 35 bushels of wheat and 50 to 70 bushels of corn per acre. Not much stock raised. Land subject to overflow during very high water. Some corn in yet, owing to wet weather. Farmers just beginning to prepare for spring crops. Wheat looking fine. Have had a great deal of wet weather; roads very muddy; almost impassable in places. Prices: Land, $50 to $70 per acre; horses, $75 to $150; mules, $100 to $150; cows, $30 to $40 per head; chickens, 10c.; turkeys, 15c.; butter, 20c. per lb.; eggs, 10c. per doz. Principal crops are wheat and corn. Some onions grown. A great deal of straw and wood shipped. Timber: Cottonwood, pecan, box-elder, sycamore, hackberry, elm.
O. G. LENNING.
West Alton, Mo., March 30, 1903.

Located in town of Shrewsbury, 7 miles from city of Worcester, Mass. Having unusually warm weather for season, but may have freezing spell yet that will kill fruit buds. We are market gardeners. Here are some prices: Butter, 28c. per lb.; horses, $100 to $150; cows, $50 to $65 per head; hay, $15 to $20 per ton; eggs, 27c. per doz.; fowls, 17c. per lb.; apples, $1.50 per bbl.; milk, 30½c. per can (8½ qts.); beets, 50c.; carrots, 40c.; parsnips, 50c.; onions, 85c. per bu. Vegetables about all gone. Have done some plowing; roads in good shape.
WESLEY D. BATES.
Shrewsbury, Mass., March 31, 1903.

Located in Rutherford county, 5 miles from Rutherfordton, the county seat, and 2 miles from Forest City, a thriving little town with one cotton mill which gives a very good demand for wood and produce. We have had a very mild winter, with a great deal of rain. Wheat and fall oats are looking the best they have for several years. Most all kinds of crops do well here, and with Mr. Terry's farming our people could soon be helping to supply the world's demand for beef and pork. Prices: Farming lands, $5 to $20 per acre; horses and mules, $25 to $125; milch cows, $25 to $50 per head; wheat, $1; oats, 70c.; corn, 60 to 75c. per bu.; meat, 10 to 15c. per lb.; chickens, 15 to 30c. per head; eggs, 12 to 15c. per doz.; farm labor, $6 to $10 per month.
T. S. GOODE.
Forest City, N. C., March 28, 1903.

KEEP THE BOYS ON THE FARM

Don't let drudgery drive the boys away from the farm. You need them. They need you. They will be better off on the farm. The country will be better off for having them there. Many ambitious and capable boys leave the farm for the city to escape a life of needless drudgery. Many ingenious boys go to the city workshops to satisfy their mechanical tastes. In these ways the country every year loses to the cities thousands of its brightest and most capable boys.

But you can't blame the boys. The boy never yet lived who enjoyed turning the grindstone for two straight hours. There is no particular fun in turning a corn sheller for that length of time. The fodder cutter comes in the same class. It is a mighty disagreeable job to chase a pair of horses around an old sweep power every time you want to grind a little feed for the stock. But when it comes to pushing a buck saw through ten cords of hard wood — well, who can blame the boys for getting sick and tired of farm life? The boy is foolish who grinds his life out with useless drudgery.

AN AERMOTOR DOES THE WORK, THE BOYS HAVE THE FUN

Modern devices and improved machinery will take away from farm life nine-tenths of all its drudgery. A power Aermotor erected on the barn will grind the grain, shell the corn, cut the fodder, saw the wood, turn the grindstone and pump the water. It will do more than this. It will give the boys a chance to develop their mechanical ability. There is something wonderfully fascinating in the whir-r-r and buzz of machinery. Where is there a good healthy boy who doesn't enjoy shoving a hickory stick up in front of a circular saw? The sound is music to his ears. A power Aermotor, an Aermotor Steel Frame Saw and three boys will saw ten cords of wood in a day. The boys will enjoy it, too, from start to finish. The next day the Aermotor will be ready to shell 300 bushels of corn. It will grind 100 bushels at the same time, and not require 15 minutes attention for that part of the work.

AN AERMOTOR GRINDER TAKES CARE OF ITSELF

The Aermotor Grinder is a marvel of simplicity and efficiency. It is built with a centrifugal feed, which regulates itself perfectly to the velocity of the wind. It will take the grain as fast as the mill will grind it, and no faster. Build a good, big hopper above the grinder to supply the grain as needed, and it can be left to take care of itself for hours at a time. That is different from a team of horses and a sweep power, isn't it?

PUT THE AERMOTOR ON THE BARN

With a power Aermotor on the barn, and all the machinery under cover, stormy days can be spent most profitably. There is always plenty of wind on a stormy day. Work done then is all clear gain.

Fit up a nice little shop with machinery to be run by an Aermotor; make half the tools you now buy. Mend the broken wagons, plows, etc. Be independent and save money. Do work for the neighbors and make money. Many power Aermotors have paid for themselves the first year. Give the boys work that they like to do and keep them contented on the farm.

THE POWER AERMOTOR HAS NO EQUAL

But remember that the Aermotor is the only successful power windmill ever built. It has been imitated, but the vital features which make it so much more powerful than all others have been overlooked. It has no equal as a power producing windmill.

Every farmer who raises grain, and every stockman who feeds grain, should have a power Aermotor on his barn. Large sums of money are spent for farm machinery which is used only a few days each year. A power Aermotor, which costs less, will be found useful 365 days each year.

Many people get along year after year without a power Aermotor, but after they have had one a few weeks they always wonder how they ever lived without it. They would as soon think of giving up the reaper, mower, or horse-rake as the power Aermotor. No farmer can boast that his place is equipped with all modern farm machinery if it lacks a power Aermotor.

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If you would like to know more about the power Aermotor, write for our book. Remember that the Aermotor is the result of 5000 experiments to learn how to get the utmost power from the wind. You can't afford to buy any power mill except the Aermotor. You would pay more and get less if you bought any other. This book tells you why. It is free for the asking.

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THE PRACTICAL FARMER.

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THE KEYSTONE TO SUCCESSFUL FARMING

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AGRICULTURAL.

SPECIAL NOTE.— Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

A Host of Pig Questions.—Breeding.—Feeding.—Pumpkins.—Cement Floor.

A large number of questions have come in from Canada, Kansas, Illinois, Missouri and Ohio concerning Mr. Henry's method of raising pigs. I will answer them briefly. I think Mr. H. does not let the sows run with the pigs after they are weaned. He likes to have the pigs he is feeding practically all one size. They feed together better, big ones cannot rob little ones, and then they sell better. He tries to have the sows farrow as nearly at the same time as possible on this account. He does not let the male run with the sows and exhaust himself unnecessarily. As I have stated, he lets the pigs (or sows) run in the blue grass pasture lot every day in the year. One correspondent thinks this would tramp up the sod too much on his soil. Possibly it would for a few days, just as frost was going out. It might be well to keep the sows in the barnyard at that time. All these things are matters of local conditions. I try to give the best general practice; you must fit it to your conditions—think for yourself. As a rule, Mr. Henry's practices are the best I have ever heard of, and are paying the best; but this is a big country. Friends in Canada and Missouri can hardly do the same in every particular. One friend aims to keep eight cows, in connection with pigs, and to sell cream to creamery; has common cows and wishes to improve them, etc. Buy a good pure bred Jersey or Guernsey sire. Have cows come fresh, say, early in winter. Raise the best heifer calves. Feed them milk until about the time pigs come in the spring. Soon after that the cows will be turned out to grass and will gain in their milk, just in time for the little pigs, as they get large enough so their mothers do not give enough for them. Your calves will also be in fine condition to turn out to grass. A small dairy should be on every farm where pigs are raised in numbers. You can feed surplus milk in winter to calves for veal, or meat, perhaps, or to sows. One reader says: "Many pigs are dying here this spring. They come weak, tumble over, squeal and die." Mr. Henry reports an average loss of not over one per cent. of all pigs born. His way is simple and sure. It is common sense. There is a cause for pigs dying; remove it. First, the sows must be fed proper food, all through the winter. They are practically making milk for the pigs before they are born, same as after. Therefore they should be fed much as you would feed a cow giving milk. Clover hay, cut early, oats, fed whole, shorts and a little corn, particularly in cold weather, enough to keep them in fair flesh. Feed a sow on corn, or corn silage, only, and her pigs will come into the world with scarcely vitality enough to stand up, simply because the mother could not supply them with sufficient growing material, protein. The mother will often become so crazed for lack of this element that she will eat her little ones. All this can be prevented every time by proper feeding, provided the sows have plenty of exercise. If they do not, the pigs will lack vitality. Never shut the sows up in a pen, or building. Let them run in the barnyard, at least, where stock will keep them moving about. If there is a clover field, or June grass pasture, they can run over daily, so much the better. Feed the oats whole, scattered on a tight feed floor, so they will be a long time picking them up and walking around and chewing them.

Now the pigs may be all right when born, and still may die off rapidly when a few weeks old, as a result of one's confining them in a pen. Don't do it. Let them run from the first day on the ground, if possible. This is one great reason why Mr. H. doesn't want any to come until it is warm enough so they can run out. There is no floor in his little individual farrowing pens, only the ground. Set them in a dry place, that is, where water will not stand, around in June grass pasture. No, no, Mr. H. does not make the pigs live entirely on June grass, clover and rape pastures. Did you not notice that he fed 40 acres of heavy corn, nearly 80 bushels per acre, and $300 worth of purchased shorts and bran in one year? They get much of their feed from the pastures, and this food helps them to keep healthy, but they are fed shorts freely at first and later on much corn and some shorts. All these changes, of course, are gradual, particularly when he begins to feed new corn. A Canada reader says: "I do not think it would be profitable to confine our sows to one litter a year, although there is not much profit in feeding pigs in the winter months. But there is a ready sale for them when weaned, at $1 to $2.50 each. This would pay well for extra feed required." All right, if you think so. But a sow that only raises one litter, if she is properly treated, can give them more vitality, start them better, nurse them longer and then be in better trim for the next litter. In the South there is far more chance for profit in two litters a year, as they can have pasture and some cheap feed most of the time. But in the North, and where hog cholera is likely to come, beware of two litters a year. It has been proven, absolutely, that hog cholera nearly always does its work among weakened pigs and sows, the result of two litters a season. There is a limit to what nature will allow when it comes to weakened vitality. Thousands have overdone the matter and lost everything, some years. The same rule holds good of breeding from immature sows and sires—the vitality is lowered and disease more apt to carry off the herd. One Northern friend objects to outdoor feeding on account of snow. Mr. H. lives in Southeastern Minnesota, where snowfall is considerable, and prefers the outdoor feeding on the score of health and exercise, and is willing to go to the trouble of shoveling snow off. The floor is long and narrow, to make it easier; cattle are not allowed on it. Yes, you can make this floor of hard-wood. Bury sleepers, say 4x4s, in the ground and lay matched planks. This will last a good while. A cement floor would be more lasting and cleaner, if properly built. Here, a foundation of 12 to 18 inches of cinders, or stones, would be necessary for drainage, then coarse gravel on top and about 3 inches thick of good cement mortar. This should be made of Portland cement and part gravel and part sand; the surface floated off with a board, not troweled down smoothly. The edges should be held in place, while drying, by boards set up on edge and held in place by stakes. The foundation should come out beyond the surface coat a few inches. Just how much of this foundation may be omitted on a sandy, well drained soil, I do not know. At any rate frost must not raise any part of floor, any more than it does a sidewalk, or it will make cracks.

Mr. Henry feeds the pumpkins raw, every time. It doesn't pay to cook food for pigs. He drives into the clover pasture, or June grass, and strikes each pumpkin with a corn knife, then throws it out and it breaks open when it falls on the ground. He raises the common field pumpkins. Pigs like squashes better, they have more sugar in them, but one cannot raise as many loads per acre. The better quality does not make up for the smaller yield. He feeds seeds and all. The pigs always eat seeds first of all. They are good for them, as they prevent all trouble from internal worms. Begin in a small way and increase the amount of pumpkins fed gradually; the same with new corn, my friend, and you will have no more trouble with scours. A Southern question: "Cow peas in corn to hog off?" Yes, yes, surely. Cow peas are good feed, much like clover. Now, good friends, I have answered your most important questions. Excuse my not giving your names and addresses, as it would have taken a large part of the room, so many have written about this matter.

Health Hints.—Graham Bread and White Bread. — I have thirteen letters from friends who want to know how wife makes graham bread. She answered a few privately at first, but they soon came in too fast, and they are still coming, from new subscribers. For one large loaf take a pint of soft yeast, two-thirds of a cup of sugar and about one-half white and one-half graham flour. Stir in the white flour first and then the graham until the batter is about as stiff as can be stirred with a large spoon. It should be very stiff, so you can take it all up on the spoon. A novice may not get it quite right the first time. Let the sponge rise in a tin, in a warm place, until it has about doubled in quantity. Bake an hour or a little more. The soft yeast used is made as follows: Take 12 good sized potatoes, boiled and mashed fine, and three tablespoonfuls of salt, two-thirds cup of white flour, scalded in hop water, one-half teacup of sugar, one and a half cakes of yeast and three quarts of cold water. Let it rise in a warm place and then keep where it is cool. Our white bread is made up in the morning with the same kind of yeast and is soon ready to bake. It is much better than bread made in the old way. Mrs. T. has told many friends how to make this kind of white bread and all are enthusiastic in its praise. With good flour there is never any failure to have good bread. Graham flour is simply wheat ground up and nothing taken out of it. Has the bran and middlings left in it. There are two special reasons for using this kind of bread, that is graham. First, the bran being left in has a tendency to prevent constipation, to keep the bowels in good condition. Second, it is good. I like it better than white bread, every time; in fact, practically never eat any white bread at home. I would not eat it so freely if it was not sweetened. I have seen it thus made away from home and surely should soon tire of it made in this way. The little sugar used can do no harm, ordinarily, and it is important that we relish our staff of life. It helps to have food taste good, and particularly when it is simple, plain food, like graham bread.

But now do not get the idea that graham flour is any better for furnishing protein, or nitrogenous material, than white flour, for it is not. There has been and still is much wrong teaching on this point. I often take up some paper, or magazine, now, and see white bread condemned as furnishing little nitrogenous matter; that it is the "staff of death," instead of life, and more such nonsense. If you actually have no trouble from constipation, eat white bread, if you please, and you will be as well nourished, as a rule, as if eating graham. But be sure you are right. Health is often injured by the bowels not working freely. Food refuse stays too long and is partly absorbed. Graham bread will help about preventing this trouble. The U. S. Experiment Stations have analyzed wheat and flour time and again, and it is a settled fact, beyond controversy, that good white bread flour, such as is usually made now, has as much nitrogenous material that is digestible in it as has the wheat, or graham, or any of the wheat products (breakfast foods), as a rule. The truth is that the graham flour in market usually has less of this valuable element than has white flour, simply because they grind a softer wheat into graham, one that would not make first-class white bread flour without the addition of some hard wheat from the Northwest. The testimony of our Stations is, of course, disinterested, and to be relied on, no matter what some extremists may teach. One friend reminds me of the experiment by the French Government, when a dog fed on white only, died in forty days. Another fed on whole wheat bread for forty days still lived and appeared all right. Some writers are still harping on this experiment, but what does it amount to? First, it was made some fifty years ago. The flour of those days, superfine white flour, had little in it but the starch of the wheat. A thick coat of bran and outside was removed. That flour would not analyze as our flour does now, such as is usually made into bread. The best milling machinery now puts much more of the wheat into flour. The bran they take off is thin indeed, but little more than the mere husk. Flour will not make good bread without a certain proportion of gluten (nitrogenous matter) in it, and that proportion must be, and is, just about what is found in whole wheat. Part comes from closer grinding, part from using some hard wheat. Whether one eats graham, or white, he should have butter on it, as wheat is deficient in fat. Then he should eat a variety of food anyway.

T. B. Terry.

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QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Cotton in Alabama.—W. M. Madison, Liberty, Ala.—"I have bought twelve acres of waxy land which was in cotton last year and made about one-half a bale per acre. I want to plant the same in cotton this year and have about 15 tons of good stable manure and plenty of good high grade guano. I would be glad to have suggestions that will enable me to make one bale per acre." This query is similar to hundreds we have received in the past. Our friend has a piece of land that made one-half of a bale of cotton per acre and instead of going to work to develop that land in the proper manner and increase its productiveness, he asks the usual question with many of our Southern farmers, "How much fertilizer must I use to double the crop?" It would be pure quackery for us to tell him that by a certain application of fertilizer he might get a bale per acre, and it is possible that he might, if the season is favorable to the heavy fertilization. But, if the season is dry, the heavy application of fertilizers might do more harm than good. What he ought to do, and what we have been trying to get our Southern farmers to realize, is that land does not get suddenly rich and that its development in productiveness must be brought about by farming rather than by an immediate application of fertilizers. Fifteen tons of stable manure would make an extremely light dressing for twelve acres of land, and if it were put in the furrows it might interfere with the getting of a stand by making the land chaffy. The best thing we can suggest, if it is necessary to put the land in cotton again, is for you to use 400 pounds per acre of any good, standard cotton fertilizer in the rows. Then run furrows in the middles, between the rows, and in these furrows scatter the stable manure that you have. We are going on the presumption that you are going to plow the land thoroughly and put it in good order before planting the crop. Now, with the manure in the middles and the fertilizer under the cotton it will get a good start and by the time it begins to fruit the roots will have found the manure in the middles, and the manure will do more good there than anywhere else.

Eastern Shore Maryland.—George J. Parmley, Ogden, Utah.—"I would like very much to get your opinion of the Eastern Shore of Maryland for a man of limited means to get a farm, and, whether it would be a desirable place to locate, and if he should raise stock and do general farming, or would it be more profitable to raise truck and small fruits and poultry?" The Editor of the P. F. has time and again given his opinion in regard to the country embraced in the Eastern Shore of Maryland and Delaware and the Eastern Shore of Virginia. We have always been of the opinion that there is no section of the country better suited for profitable farming, market gardening and stock raising than this peninsula. The climate being mild for the latitude, the soil easily worked and improved and the transportation facilities unequaled by any section of the country, with the large cities easily reached by rail or by water. There are certain sections of the peninsula that are better adapted to general farming, grain growing and stock raising, while others sections, with lighter, sandy soil, are particularly fitted for market gardening for the Northern cities. This is particularly true of the southern counties of Maryland and Delaware and the Eastern Shore counties of Virginia. Whether a man of limited means will do well there or not will depend upon the man himself, and this is a question which we cannot possibly answer.

Sweet Peas. — C. W. Siebeneichen, Irondquoit, N. Y. — "Please advise me through the query column, if the vines from sweet peas are good for cows and how the same should be cured so that they can be fed in the fall. Also inform me if you think peas are a profitable crop at $32.50 per ton, grown for a canning factory." We assume that by tho term sweet peas you mean the pea used for the production of flowers. This pea is not a true pea, but belongs to the genus Athyrus, while the garden pea belongs to the genus Pisum. Some of the Lathyrus are bitter and to some extent poisonous to cattle, and we have never heard of sweet pea vines being used for stock food, and cannot say what the result would be. Your question as to the growing of peas for a canning factory refers, doubtless, to the ordinary garden pea. Whether they can be grown profitably at the price you name or not depends upon the productiveness of the variety used, and the soil upon which they are grown, and it is utterly impossible for us to give an opinion in regard to it. Perhaps some of our readers who have had experience in growing peas for canners can aid you better than we can.

Alfalfa in Virginia. — C. B. Benschoten, Uno, Va. — "I have recently located in Madison county. Do you think alfalfa could be grown here successfully? Where can good seed be obtained? How can one get samples of soil analyzed? I also want to procure good red clover seed and the best variety of cow peas for this section. I want to get all in one order, as I am some distance from the railroad, and roads are very bad." There is no doubt that on suitable land in Madison county you can grow alfalfa successfully. It needs good, strong soil, not too low or wet and with a mellow subsoil easily penetrated by its long tap roots. In your section the seed should always be sown in August or September, and use not less than twenty pounds of seed per acre. You can get any of the seeds suggested from Wm. Henry Maule, Philadelphia. To get the sample of your soil analyzed correspond with the Experiment Station at Backsburg, Va. But we will say that an analysis of your soil will not help you in the least, for the analysis cannot inform you as to the availability of matter that may be in your soil, and a soil that is totally unproductive may show, on analysis, that it has an abundance of plant food in it. The way to analyze it and to find out what your soil needs is to experiment with a series of plats, using the various forms of plant food separately and in combinations, as we have endeavored to show in our book, "Crop Growing and Crop Feeding," which you can get from The Farmer Co. The best cow peas for your section will be the Large Black pea. It will be all right to get these seeds early, but do not sow the cow peas until June.

Manure for Corn.—T. J. Deal, Kilby, N. C.—"I have eight or ten tons of rich dirt and pine needles in an old field. Has been there for 25 years and I want to make compost of it for rich bottom land for corn. What kind of chemicals or acids will it be best to use?" Get the eight or ten tons of rotten leaves and dirt out and spread it broadcast where you are going to plant the corn. It is not worth enough for you to spend time in mixing in compost and turning and handling several times. Then if your land needs more fertilizer get a good complete fertilizer and put that on the land broadcast, too, at the rate of from 400 to 500 pounds per acre. Putting fertilizer in the hills for corn is not a good practice, for the wide-spreading roots soon get beyond it, and it is far better, whatever fertilizer you use on the land, to use it broadcast. Mixing a lot of fertilizers with dirt does not pay for the time and labor expended.

Crimson Clover and Cow Peas.—C. W. Shephard, Bayard, Va.—"Can crimson clover be sown in an orchard about the 15th of May or first of June with cow peas and live all right? I want something to turn hogs on about September, and I want something beneficial to the orchard." You should never sow anything in the orchard that will take away so much moisture from the land as peas or clover as early as the middle of May or first of June. The orchard should be cultivated until July, and after the season's growth has been made in the orchard. The cow peas sown July 1st will give you an abundance of food for the hogs in September. If you sow crimson clover with them the peas will be likely to smother the clover.

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Cow Peas, etc. — W. J. Barrowcliff, Woodbourne, Pa.—"I am 20 miles from the City Hall of Philadelphia. Can cow peas be grown successfully here? If so, tell me all about how to do it, and what kind to sow, when to sow them and manner of sowing. Would you sow with oats, to be cut and cured for hay? What is the relative value of corn meal and ground oats, the refuse of oat meal factory, for feeding dairy cows? What is sucrene worth when compared with any of the above? What form is the nitrate of soda advertised in the P. F. by Wm. S. Myers of New York?" You can grow any of the cow peas except the Wonderful, which would be too late maturing for you. We have told all about cow peas so many, many times in the P. F. that it is rather surprising that anyone should ask again if they should be sown with oats. Cow peas should never be sown before the first of June, while oats sown at that time would amount to very little. Cow peas are essentially hot weather plants and need the ground warm before they are sown. Sow one bushel per acre on freshly plowed land and harrow them in well, or drill with an ordinary wheat drill on well prepared land. If the land is thin, an application of acid phosphate at the rate of 300 pounds per acre, will answer. The best pea for your use will probably be the Large Black. Having no analysis of the feeding articles you name, it is impossible for us to compare them with corn meal; the probability is that the ground oats may have a little more protein. The nitrate of soda is in the crystalline form as imported.

Hog Pasture. – H. D. Conley, York Co., Pa.—"I intend to engage in raising hogs this year, and want your opinion in regard to growing nitrogenous food for them. The P. F. has taught me a great deal in regard to peas and clover as a pasture, and I would like to know what you think best in this section for pasture?" There is nothing better in the early spring than a piece of crimson clover sown the summer before. This can be followed by medium red clover. Then the first of June plant a lot in Whippoorwill cow peas in rows wide enough to cultivate, and when they ripen turn the pigs on these and they will fatten rapidly till time to give them corn for finishing off. Another lot with some early sown rape will come in after the red clover and before the cow peas are ready. Your section is a warmer one than that where our West Virginia correspondent lives, and you can do better, we think, with cow peas than he probably could.

Cow Peas in Illinois. — F. H. Peabody, Waukegan, Ill.—"What kind of cow pea will give the most forage, not wanting any for seed? Is it best to sow broadcast or in rows and cultivate? Can I seed down with timothy, clover or alfalfa at the same time, and how would orchard grass do? How much seed per acre? After the peas have had growth enough will it bloat the cows to turn them on it?" The heaviest growth of cow peas will be made by the Wonderful, which, in your section, will hardly get into bloom before frost, but will give you an immense amount of forage or pasturage. For your purpose it would be better to sow the peas broadcast, one bushel per acre. You cannot seed down with anything at the same time, for the growth of peas will be so dense as to smother out anything you could sow with them, like grass. The peas, like any other green vegetation, will bloat cows if they are turned on them when hungry and allowed to eat their fill. If turned on gradually and always when filled with food elsewhere, they will soon get accustomed to the peas and you will have no trouble with them.

Alfalfa in Maryland. — E. Thomas Massey, Massey, Md.—"I have 6 acres to go in alfalfa this spring which I want to top dress with lime after plowing. Would ground lime drilled in be as good as a top dressing of slacked lime, and how much should be drilled in per acre?" We have never used the ground lime but know that it has given good results in other people's hands and it is a great deal more convenient than the slacked lime. We would not make the application heavy and would arrange to drill in not over 6 or 10 bushels of the ground lime per acre, which would be equal to 20 or more of the slacked lime. Sow at least 20 pounds of alfalfa seed per acre. Sow it as you would clover and brush in lightly with a smoothing harrow.

Fertilizer for Cow Peas. — T. J. X., Shiloh Hill, Ill.—"I have a quantity of acidulated bone meal. Will it be economical to sow 200 pounds of this per acre with cow peas where the land is rather worn?" Yes. It will pay you better to use 300 pounds rather than 200 pounds per acre.

A New Pea.—A. B. Rice, Lynneville, Ind., sends us a sample of the peas which some months ago he stated made 60 feet of vines. Mr. Rice says that we misunderstood him, and that he did not mean one vine 60 feet long, but 60 feet in all of the stems on the plant. He also says that Mr. Styles, of Florida, was in error in saying that this pea was grown on his place in Indiana. "I have six acres of good bottom land which I wish to sow in cow peas for hay. Would half a bushel per acre be enough or should I sow a bushel." The peas sent are entirely new to us, and we will take pleasure in testing them. Some large peas mixed with them are Whippoorwills. They are not like the typical form of the Whippoorwill, but that pea varies a great deal in appearance. On land of that character you had better sow rather thickly for hay. Half a bushel would cover the whole land but the stems would grow so stout as to be harder to cure. Therefore to make the finest hay sow at least 1 bushel per acre.

Cow Peas in West Virginia.—Frank Ferguson, Parsons, W. Va.—"What is the best kind of cow pea to sow in this climate, and when to sow them?" In your elevated mountain country we very much doubt the success of any cow pea. Your summer nights are probably too cool for them. Of course this is merely a suggestion from a general idea of your State. So much of West Virginia lies on the high Alleghany plateau that it is very hard to advise, since the climate is so different from places in the same latitude near the coast. You can find out better by actual experiment on a small scale. If you wish to experiment we would suggest that you try some of the New Era and some Black peas. If the Black matures with you it will be all that you need. Do not plant till ground is warm in June.

Sowing Grass Seed. — C. H. Reeves, Canto, N. C., complains that his queries are ignored in the P. F. Any query which comes to the hands of the Editor is promptly answered, and queries from North Carolina farmers are answered personally in most cases. Mr. Reeves will find that his letter was answered on page 151, March 7th. You must remember that the paper is made up some time in advance of the date of publication, and that it takes two or more weeks to get matter in after received.

Cow Peas in Pa. Mountains.—J. A. Farabaugh, Cambria Co., Pa., says that he lives 2,000 feet above the sea, where it freezes up solid the first of December and no more plowing can be done till middle of April. He wants to try cow peas, and wants our advice about the matter. Our advice is, in such conditions, to let the cow pea alone. It is probable that even in the summer you have nights that are cool, and there is no prospect, we think, that any variety of the Southern cow pea will thrive under such conditions. Even in North Carolina, on the high Alleghany plateau, they do not thrive, for there the additional height brings the climate near to yours. Climate is more a matter of elevation than of latitude. There are sections in your latitude and north of you where the cow pea will thrive on a light soil, but your situation is too elevated and cold for the peas to have any chance at all.

Alfalfa Hay Bad for Horses.—R. W. Scott, Junction City, Kan. — "I am always interested in anything about alfalfa, and am inclined to differ with many who extol its value. I grew and fed it for several years, and found that it acted as such a diuretic on my teams that I abandoned it entirely. I am prompted to write this by the statement of one Mr. Wing, of Minnesota, as given by Mr. Terry, who says that it is fine food for horses. I did not find it so, and the excessive urination led me to interrogate our Experiment Station. All the concession I could get was, 'It is not an ideal horse feed.' Cattle do well on it, and as they are seldom housed in Kansas except to the wind ward of a wire fence, those who wait on them care little for its effects upon them. Excessive urination must produce thirst, and this in a work horse in the harvest field, with the temperature at 95 to 100, where no water is provided during the forenoon, is, to say the least, uncomfortable. There is another and more objectionable feature. I brought with me from New York, ten years ago, a fine Hambletonian mare. I had driven her for two years, and had never seen any signs of heat. But after feeding her alfalfa for a month or more she became so, and never seemed otherwise while eating it. I attach a clipping from the Kansas Farmer, which I think fully justifies the conclusions I have reached." The clipping referred to is a reply to a correspondent, and the editor says that the diuretic effects of alfalfa hay have made many horsemen timid about feeding it largely. English reports, he says, say that it is very good for horses. In Kansas the disease called azoturia has been reported from the excessive and long-continued use of alfalfa for horses. Colorado sheep men report an increase in the number of lambs from sheep fed on alfalfa. Whether it will have the same effect on mares the editor gives no opinion. This is an entirely new view of the matter of feeding alfalfa hay. As this editor has had no experience in the feeding of it he can give no opinion in regard to what Mr. Scott writes. It would be well for the Western Experiment Stations to give a candid opinion in regard to this. An Experiment Station is for the investigation and discovery of truth in regard to anything, and should not allow any enthusiasm for a crop to cause them to conceal any damage that may arise from its use. We would be glad to have the experience of others in the West in regard to the feeding of alfalfa to horses, for if Mr. Scott is correct it will prove a serious drawback to the value of alfalfa hay. Let us hear from others who have fed it.

Fertilizer for Corn.—M. J. McClure, Clarkson, Ky.—"I have a field to plant in corn which is too poor without any fertilizer, and I have no manure. The land was in corn and watermelons last year and is low and wet, though part is higher. What fertilizer should I use?" With the conditions named it seems that good drainage and good farming are needed more than fertilizers. You say the field is too poor to grow corn without fertilizer, yet you grew corn on it last year and want to repeat the same crop. This is not farming; it is merely planting. In the condition the land is we hardly know what fertilizer to recommend, since we have no knowledge of the actual needs of your soil and cannot possibly have any knowledge of them. We would suggest, however, that probably a mixture of 1,700 pounds of acid phosphate and 300 pounds of muriate of potash, to make a ton, and of this use 400 pounds per acre, will give you an increase of crop. Whether it will pay you or not we are unable to say.

DR. KILMER'S
SWAMP-ROOT
Kidney, Liver & Bladder
CURE.
DIRECTIONS.
MAY TAKE one, two or three teaspoonfuls before or after meals and at bedtime.
Children less according to age.
May commence with small doses and increase to full dose or more, as the case would seem to require.
This great remedy cures all kidney, liver, bladder and Uric Acid troubles and disorders due to weak kidneys, such as catarrh of the bladder, gravel, rheumatism, lumbago and Bright's Disease, which is the worst form of kidney disease.
It is pleasant to take.
PREPARED ONLY BY
DR. KILMER & CO.,
BINGHAMTON, N. Y.
Sold by all Druggists.

(Swamp-Root is pleasant to take.)

Not Recommended for Everything

But if You Have Kidney, Liver or Bladder Trouble, You Will Find the Great Remedy Swamp-Root, Just What You Need.

It used to be considered that only urinary and bladder troubles were to be traced to the kidneys, but now modern science proves that nearly all diseases have their beginning in the disorder of these most important organs.

Therefore, when your kidneys are weak or out of order you can understand how quickly your entire body is affected, and how every organ seems to fail to do its duty.

If you are sick or "feel badly," begin taking the famous new discovery, Dr. Kilmer's Swamp-Root, because as soon as your kidneys are well they will help all the other organs to health. A trial will convince anyone.

Doctors Prescribe Swamp-Root.

Gentlemen:—"I have prescribed that wonderful remedy for kidney and bladder complaints, Dr. Kilmer's Swamp-Root, with most beneficial effect and know of many cures by its use. These patients had kidney trouble, as diagnosed by other physicians, and treated without benefit. Dr. Kilmer's Swamp-Root effected a cure. I am a liberal man and accept a specific wherever I find it, in an accepted school or out of it. For desperate cases of kidney or bladder complaint under treatment with unsatisfactory results I turn to Dr. Kilmer's Swamp-Root with most flattering results. I shall continue to prescribe it and from personal observation state that Swamp-Root has great curative properties."

L. Barton Irish M.D.
276 9th St., Borough of Brooklyn, N. Y.

Weak and unhealthy kidneys are responsible for more sickness and suffering than any other disease, and if permitted to continue much suffering with *fatal results are sure to follow.* Kidney trouble irritates the nerves, makes you dizzy, restless, sleepless and irritable; makes you pass water often during the day and obliges you to get up many times during the night. Unhealthy kidneys cause rheumatism, gravel, catarrh of the bladder, pain or dull aches in the back, joints and muscles; makes your head ache and back ache, causes indigestion, stomach and liver trouble, you get a sallow, yellow complexion, makes you feel as though you had heart trouble; you may have plenty of ambition, but no strength; get weak and waste away.

The cure for these troubles is Dr. Kilmer's Swamp-Root, the world-famous kidney remedy. In taking Swamp-Root you afford natural help to Nature, for Swamp-Root is the most perfect healer and gentle aid to the kidneys that is known to medical science.

If there is any doubt in your mind as to your condition, take from your urine on rising about four ounces, place it in a glass or bottle and let it stand twenty-four hours. If on examination it is milky or cloudy, if there is a brick-dust settling, or if small particles float about in it, your kidneys are in need of immediate attention.

No matter how many doctors you may have tried—no matter how much money you may have spent on other medicines, you really owe it to yourself to at least give Swamp-Root a trial. Its stanchest friends today are those who had almost given up hope of ever becoming well again.

If you are already convinced that Swamp-Root is what you need, you can purchase the regular fifty-cent and one-dollar size bottles at the drug stores everywhere. Don't make any mistake, but remember the name, Swamp-Root—Dr. Kilmer's Swamp-Root, and the address, Binghamton, N. Y., on every bottle.

Sample Bottle of Swamp-Root Sent Free by Mail.

EDITORIAL NOTE—If you have the slightest symptoms of kidney or bladder troubles, or if there is a trace of it in your family history, send at once to Dr. Kilmer & Co., Binghamton, N. Y., who will gladly send you by mail, immediately, without cost to you, a sample bottle of Swamp-Root, and a book containing many of the thousands upon thousands of testimonial letters received from men and women cured. In writing, be sure to say that you read this generous offer in the Philadelphia Practical Farmer.

Live Stock and Dairy.

If stock breeders who have live stock to sell will use the columns of the P. F. they will be surprised at the results. A 4-line stock advertisement inserted one year will cost $37.14, only $9.36 per quarter, and will keep your business in a healthy and profitable condition

Feeding Dairy Cows.

PROF. A. M. SOULE.

In feeding any class of stock the wise man carefully considers the needs of his animals and the character of the products he desires to obtain. He does this because each class of animals has a specific function to perform, and in order that they may produce most economically it is necessary that they be fed those foods best adapted to the proper performance of their respective functions. As a matter of fact, the dairy cow is simply a machine, and a very delicate and complicated one, for the reduction of much coarse, cheap roughness into concentrated and nutritious forms; into forms that vary but slightly in composition from day to day and for whose production in large quantity the cow is in turn dependent on the food provided by her owner. This is but logical reasoning; it is a plain and simple exposition of facts apparently known to everyone, and yet it is no uncommon thing to see the dairy cow fed on rations especially adapted for beef production; at least they do not contain the food nutrients in the best proportion to produce milk, and hence the owner of these animals is asking them to do something well nigh impossible. If they succeed fairly well as cows, they are doing so at a great waste of energy and an extensive wear and tear on the delicate digestive machinery. Everyone knows that an engine out of alignment knocks, and that if it is permitted to do so, the whole machine is soon so racked as to be of little worth, whereas, if properly adjusted and kept in good working order, it will last for an indefinite period. So it is with the cow, though strange to say many owners do not seem to realize this fact.

As the products of the dairy cow are rich in protein, it is but natural that the food of the animal would need to contain a liberal supply of this particular food nutrient, and practical demonstrations everywhere have shown the importance of this matter. As protein is, as a rule, the most expensive form of food to purchase, and the most difficult to grow on the farm, it is not surprising in many instances that there should be a tendency to feed wide rations, carbohydrate rations if you wish, containing an excess of corn or other concentrates low in protein and of necessity not best adapted for the nourishment of the cow and the production of a large flow of milk. As protein is very important in the dairy ration, it is thus an interesting matter to learn that the Southern farmer is particularly fortunate in not only having at his command the richest and best protein yielding concentrate known, cottonseed meal, but that he can likewise grow several grain or hay crops rich in this element.

It is still more important to learn that alfalfa, cow pea hay and probably soy bean hay can be successfully substituted for a portion of the concentrates which the farmer has hitherto deemed it necessary to purchase at a high price. It is known that two concentrates give better results in a dairy ration than one, and it has been thought for a long time that the Southern farmer must of necessity purchase cottonseed meal and wheat bran. Cottonseed meal, considering the digestible nutrients contained and the ruling market price, is a cheap food product, and then as it is so rich in fertilizing constituents as well, the farmer can well afford to buy it. With wheat bran it is somewhat different, as the price is very high, ranging from $20 to $26 per ton. It is not surprising that the farmer who finds it necessary to buy both of these concentrates should sometimes grumble about the profits from his dairy herd, though under good management and with good cows, with plenty of silage, he can still make milk and butter as cheap in the South as anywhere else in the United States.

Imagine, then, the great advantage it is to the Southern farmer to be able to substitute pea hay, which he can produce for from $3.00 to $5.00 a ton, depending on the land, the season and the variety used, for wheat bran. The substitution, of course, must be made on the basis of the protein content, and in experiments recently made at the Tennessee Station it was found that one and a third pounds of pea hay were about equal in feeding value to one pound of wheat bran. As from two to three tons of pea hay can be produced per acre, the farmer can obtain at an outlay of $10 to $15 the protein equivalent contained in more than two tons of wheat bran, which would cost at a moderate estimate, $20 per ton. The immense importance and economic advantage of being able to substitute pea hay for wheat bran cannot be estimated in dollars and cents, and it behooves the Southern farmer to give more attention to the production of this immensely valuable hay and protein-producing crop. Of course, pea hay could not be substituted indefinitely for wheat bran, as the animals would not eat enough of the latter; nor, on the other hand, could it be substituted indefinitely for cottonseed meal, though for small amounts of the latter it may be substituted as successfully as for wheat bran. The pea hay mentioned in the experiments, a summary of which is shown in the table in connection with this article, was fed in a finely chopped condition.

FEEDING DAIRY COWS.

Group	Ration fed	Food consumed per Gal. milk	Food consumed per Lb. butter	Value of manure	Cost of gal. milk High price	Cost of gal. milk Low price	Cost of lb. butter High price	Cost of lb. butter Low price
I	30 lbs. silage	27.04 lbs.	55.80 lbs.	$45.67	8.5c.	5.9c.	17.6c.	12.2c.
	4 " C. S. meal	2.96 "	6.40 "					
	6 " W. bran	2.04 "	4.20 "					
II	30 " silage	29.04 "	48.40 "	$40.21	7.3c.	5.2c.	13.9c.	9.9c.
	4 " C. S. meal	3.06 "	7.44 "					
	7 " pea hay	2.48 "	4.68 "					
III	30 " silage	20.06 "	37.92 "	$37.53	9.6c.	6.0c.	17.4c.	10.9c.
	6 " W. bran	6.64 "	11.06 "					
	13 " pea hay	3.88 "	7.00 "					

PRICES OF FOOD STUFFS.

Wheat bran,	$26.00-$16.00	Cow pea hay,	$10.00-$6.00
Cotton seed meal,	$24.00-$20.00	Silage,	$ 2.50-$1.70

Fat—I, 4.9 per cent.—II, 5.3 per cent.—III, 5.0 per cent.

Solids—I, 18.4 per cent.—II, 11.0 per cent.—III, 14.3 per cent.

The table shows the results of feeding 12 cows for 120 days on three distinct rations. The roughness in all instances was the same, being silage. The first group received cottonseed meal and wheat bran; the second, cottonseed meal and pea hay substituted for the wheat bran; and the third, wheat bran and pea hay the hay being substituted for the cottonseed meal. The amount of food consumed for a gallon of milk and a pound of butter is shown all the way through and forms an interesting study for the dairyman. The value of the manure is also worthy of consideration, as it would quite offset the care of the cows. The cost of a gallon of milk and a pound of butter is shown at high prices and low prices, the idea being to determine the influence of the varying market prices on the cost of producing a gallon of milk and a pound of butter. As is well known, a ton of wheat bran, for example, varies in cost from $16 to $26, depending on the locality, season and crop conditions over the country. Pea hay, on the other hand, may be produced on the farm for, say, $3 to $4 per ton; to deliver it to the nearest market might make it worth $6 per ton; whereas, on the market it might be worth $10 per ton. But the farmer in figuring his profits should never consider the market price for a product, but its actual value on the farm, for it costs a good deal to deliver it over the bad roads which prevail in many sections of the country. The experiment shows that the cheapest gallon of milk was produced, at both high and low prices, by the combination of cottonseed meal and pea hay, a ration containing the highest amount of protein. The cost of a gallon of milk was respectively 7.3 and 5.2 cents, and the cost of a pound of butter, with the same foods, 13.9 and 9.9 cents. With pea hay substituted for cottonseed meal in group III, the cost of a gallon of milk and a pound of butter was slightly higher than where cottonseed meal and wheat bran were fed, but the difference was so slight that it shows beyond doubt that pea hay could frequently be substituted for cottonseed meal in sections of the country where railroad freights are excessive or from which the cotton fields are far distant.

These figures bring some new and useful thoughts to the attention of the dairymen and open up a field for exploitation which is entirely new to them. They show that milk and butter can be produced at a very reasonable cost in the South by simply utilizing this splendid protein food stuff which nature has so well adapted for culture in the South. They present results that should encourage and inspire every dairyman to greater effort and convince thousands of men who are wavering that the dairy business intelligently conducted, offers a safe and sure investment to the Southern farmer, and that the time has come when this great industry should be developed so as to not only fully meet the needs of the Southern people, but to provide a surplus for the use of the great cities of the country, and in the near future for export purposes as well.

Tennessee Experiment Station.

Bickmore's Gall Cure cures while you work the horse of all Harness, Saddle or Collar Galls, Scratches, etc., Sample mailed for 10 cents.
BICKMORE GALL CURE CO., Box 518, OLD TOWN, ME.

Large English Berkshire Swine. Imported boars at head of herd. Prices defy competition. Send for catalogue for 1902.
N. S. BURRIER, New Midway, Md.

98½ POINTS
The Highest Score at any Dairymen's Meeting
this season received by butter made from cream separated by U. S. Separators. This butter was exhibited at the Vt. Dairymen's Assn., Rutland, Jan. 6-8, 1903, where it won
GRAND SWEEPSTAKES AND GOLD MEDAL.

The U. S. Wins in Nebraska
The Greatest Cream Gathering State in the Union.
At the State Dairymen's Meeting, Lincoln, Jan. 22-23, butter made from Cream Separated by U. S. Separators received
The Highest Score of All.

A GREAT COMBINATION!
GOOD COWS AND A U.S. SEPARATOR FILL THE FARMER'S POCKETS WITH MONEY!
The U. S. Separator gets all the cream from the milk,
The cream makes the butter,
The skim-milk makes the calf,
All bring in the cash.
301
Send for Catalogue
VERMONT FARM MACHINE CO., Bellows Falls, Vt.

The U. S. Victorious in New York
Greatest Dairy State in the East.
At the State Dairymen's Convention, Jamestown, Dec. 9-13, 1903, butter made by U. S. Separators received
98 Points—The Highest Score.

The U. S. Away Ahead in Maine
At the State Dairymen's Assn., Waterville, Dec. 3-5, 1902.
Highest Score, Second Highest and Third Highest
were all made from cream separated by U. S. Separators, and included the
Highest in both the Dairy and Creamery Classes.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Milwaukee, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Lameness.—I have a horse 14 years old that was noticeably lame last September, and has gradually grown worse; does not seem to hurt him when standing still. It is in left hip joint or whorl bone, so say two veterinarians. When walking one can scarcely notice lameness, but if made to trot will gallop. Hip slightly lower than other, but does not seem to get worse. Have blistered once and am blistering again. Horse in fine condition; very hearty eater.
Tiffin, Ohio. J. A. EGBERT.

As you are blistering hip again it will be necessary to wait a month until effects of blister pass off. At that time, if still lame, clip hair from stifle joint and blister with cerate of cantharides, one ounce; biniodide of mercury, one drachm; mix. We fancy the seat of lameness is in stifle, and would blister a large surface, including stifle joint, both on inside and outer aspect.

Skin Disease.—1. I have a young brood sow that has some sort of skin disease; her skin is very rough and scabby on her legs and belly, and she is continually rubbing herself at stones and posts. Also have four nice young shoats that are getting the same way. They have no lice. Feed them sweet separator milk, oats and wheat chop, with a little corn. 2. Have a heifer that has a big seed wart on her udder. J. E. READLER.
Nescopeck, Pa.

1. A parasitic disease of the skin is present and it will be necessary to dip the hogs in Chloro-Naptholeum solution, adding flowers of sulphur at rate of one pound to the gallon of dip. Scrub this in well with hard brush and dip again in ten days and repeat as required. Clean up the pans and all rubbing posts, etc. Disinfect them and then whitewash. Feed soft food, without grain, for some time. Green food would be good for them. 2. If wart has a narrow neck it should be cut off or ligated tightly with a few horse hairs or silken cord. If flat, paint it once daily with glacial acetic acid after smearing lard around the wart.

Probably Tetanus.—I have a cow that has something like blind staggers. She was lying down and I helped her up. She ate and walked out of the stable and fell down and had something like a hard fit; she rolled her eyes back and got perfectly stiff, with her head drawn back on her left side; I thought she was dying, but in a few minutes she got over it and I got her up and got her back in the barn. She eats and drinks all I give her, but swallows very slowly. When I walk around her she bats her eyes and dodges as though she expects you to hit her.
Shelbyville, Tenn. T. R. WADE.

From your account we should judge that the cow is afflicted with tetanus (lock jaw), which does not always set the teeth, but always affects the eyes, causing the haw (membrana nictitans) to protrude across the eyeball when animal is excited or head is raised. Stiffness is also noticeable and when animal falls it has spasms and becomes rigid. Your treatment was correct and all that can be done will be to keep the cow quiet in a box stall and there feed soft food. Should any more spasms occur, give ounce dose of fluid extract of cannabis indica or chloral hydrate and repeat in a few hours if necessary. Tetanus would come from infection of a wound by the germ of the disease. Such wound, if found, should be cleansed and dressed daily with 1-1000 solution of bi-chloride of mercury. If tetanus is not present the cow might possibly have fits, etc., from indigestion, so that a change of food would be indicated following the purge which you have given. Tetanus is, however, most likely to be present.

Indigestion.—I have a horse 10 years old, in fine condition. Wants to eat rotten wood or dirt. What is the cause and what will satisfy this desire? Does eating rotten wood or dirt have the same effect, or are there two causes? A. T. MADDOX.
Kenna, W. Va.

Depraved appetite is due to chronic indigestion and is usually induced by lack of work, overfeeding, hard drinking water, tainted food, badly ventilated stables, worms, contaminated drinking water, too much corn, etc. Remove any one of these causes present. Clip horse if hair is long and coarse. Wet all food with equal parts New Orleans molasses and water. No trouble will follow the use of even large quantities of this molasses water, but it is best mixed with cut hay and other foods. Supply a lump of rock salt, to be licked at will. Let him have green grass when it comes.

Paralysis.—I have just moved here from Colfax, Ill., and brought a full blood Duroc sow, and while in transit the trainmen bumped the car so hard, and as the car floor was wet and slippery, she was thrown down several times. Two weeks previous she was served by a heavy boar. Now she is down and drags her hind legs straight out behind. She is one year old and has never had pigs. She is pregnant; will she farrow all right?
Blackwater, Mo. GEO. R. KELLY.

If you find that the hind legs are insensible to feeling when pricked with a pin you may as well slaughter her for use if in good condition, as there would be no hope of recovery. If far along in pig she could not, of course, be used for meat. If the parts are not insensitive, puncture firing of the muscles of the back at loins will be the most likely treatment to put her on her legs again. Sharpen an eight-inch length of baling wire and insert other end in a handle. Heat this red hot and with it puncture a double row of holes deeply into the muscles on each side of the spine at loins and afterwards rub in soap liniment once daily. Give her fluid extract of nux vomica three times daily, commencing with three drops at a dose and increasing the dose a drop daily until you notice that the muscles twitch involuntarily or the sow gets up. If the muscles twitch it is time to stop or go back to the first dose and repeat as before. We do not consider this necessarily a case of sprain of psoas muscles.

Scouring. — I have a horse with loose bowels; they get worse in making a very short drive, and also when he becomes heated. Everything he eats passes through him readily. NOAH KIMBLE.
Brushy Run, W. Va.

If horse is of the long, loosely coupled type, such as horsemen call "washy," it will be difficult to cure him so that he will stand a long drive without scouring. Have his teeth put in order by a veterinary dentist. Always water him before and not after driving, and do not allow much water just before he starts on trip or while at work. Clip him if his coat is long and coarse. All food used should be sound and free from taint or mould. Feed oats and prairie hay and have stable clean and well ventilated and prefer soft to hard drinking water. In each feed mix browned wheat flour. If this is not sufficient to stop the trouble, add a tablespoonful of powdered wood charcoal, half a drachm of powdered nux vomica and a drachm of powdered hydrastis candensis. Twice a day would be often enough to give this medicine.

Sheep Sickness. — Please inform me what will cure sheep of what we call sheep rot. CURTIS JETT.
Athol, Ky.

Simple discharge from the nostrils throughout the year is not the usual symptom of what we have always considered to be "sheep rot." The disease we know under that name is due to liver flukes (distoma hypaticum), and where this disease is present the sheep pine away and finally die from emaciation. Membranes of the eyes, etc., are always yellow in "rot" from derangement of the liver, and nostrils may not have a discharge. It is evident that you will have to make a post mortem examination of an affected sheep and send us detailed description of what is found in lungs, skull, intestines, liver, etc. We are of the opinion that your sheep are infested with parasites, including the grubs of the gad fly, which are found in the nostrils and sinuses of the head and give rise to the discharge mentioned. Write again and give more specific information and we shall be pleased to help you out.

Artificial Impregnation.—I want to know something regarding the use of an impregnator. I have a jack and want to breed a number of mares. Would you advise the use of one where mares are hard to "catch?" Where can I get one, and how much will it cost? Can a novice operate one?
Stockett, Mont. R. M. MILLER.

It requires a good deal of practical experience to properly use an impregnator of the syringe pattern, and we would strongly advise you to learn the use of gelatine capsules. First, open the mouth of the womb by inserting the fingers in cone shape and by rotary motion effecting an entrance. Then breed the mare and at once remove the cap from a one-ounce gelatine capsule, introduce it into the vagina and with it scoop up some of the fluid found on the floor of the vagina, squeeze it shut and then pass it through the mouth of the womb and allow it to remain there, as it will soon dissolve. In hard cases use two capsules, one after the other. The capsules may be ordered through any druggist.

Sore Shoulders
sore neck, sore back, &c., resulting from collar, saddle or harness gall and chafing, and all forms of canker, callous, &c., are instantly relived and cured with
Tuttle's Elixir.
Used and endorsed by Adams Express Company.
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Dear Sir:—I had a horse that had two bunches on his shoulder, caused by wearing a new collar. Less than one bottle of your Elixir cured it after six months' standing. L. W. FISHER.
Cures also curb, splint, contracted cord, all forms of lameness and colic, distemper, founder, pneumonia, &c.
TUTTLE'S FAMILY ELIXIR cures rheumatism, sprains, bruises, etc. Kills pain instantly. Our 100-page book, "Veterinary Experience," FREE.
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Beware of so-called Elixirs—none genuine but Tuttle's.
Avoid all blisters; they offer only temporary relief if any.

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Worth a Postal
To Get Well?

When you write that postal, I will gladly send my help.

I will mail you an order—good at any drug store—for six bottles Dr. Shoop's Restorative. You may take it a month on trial. If it succeeds, the cost is $5.50. If it fails, I will pay the druggist myself—and your mere word shall decide it.

I do that for every sick one who writes me, and I have for twelve years. I have found that the sick are honest and I have proved that I can cure nearly all.

Only one patient in each forty decides that the test has failed. The others pay gladly—pay because they are cured.

There are 39 chances in 40 that I can cure you, and I alone am the loser if I can't. Let me try.

I have spent a lifetime in learning how to strengthen weak inside nerves. My Restorative brings back that power which alone operates the vital organs. I treat a weak organ as I would a weak engine, by giving it the power to act. My way always succeeds, save when a cause like cancer makes a cure impossible. And most of these chronic diseases cannot be cured without it.

You'll know this when you read my book.

Simply state which book you want, and address Dr. Shoop, Box 577, Racine, Wis.
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Book No. 2 on the Heart,
Book No. 3 on the Kidneys,
Book No. 4 for Women,
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THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

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Talks on Timely Topics.

Special Crops for Special Localities.—Some crops can be grown almost anywhere. I do not know that I would want to select a special location for onions, for cabbage, for lettuce, tomatoes, or almost any other garden crop. If the soil conditions are right, I think the locality is all right. Yet the case is otherwise with fruits. Here, for instance, we can grow Bartlett pears more easily, of better quality and bigger and surer crops of them than in most other locations. The canning factory people know this, and come here for their Bartletts. It has become a centre of production, so far as that fruit is concerned. The La Salle strawberries also have a reputation for superior quality in the Buffalo markets. Then there is the Oswego strawberry district. This is a strip of territory about three miles wide and twenty miles long. The berries grown there by careful growers are so good that they command from 20 to 25 cents per quart in ordinary seasons. But it is also necessary that the growers live up to their reputation. They must produce a superior article or their business, with their high prices, would soon be gone. I have just been listening to an address on strawberry growing by Mr. Tice, an Oswego expert. He does not want either sandy or mucky soils. The best for the purpose, he says, is a cold, wet soil, such as gravelly loam 3 or 4 feet deep, and underlaid with a clay hardpan. This soil, however, must be thoroughly underdrained to remove the excess of water. On such soil, when made rather rich, the famous berries can be produced. An excess of nitrogen is not wanted, as it would tend to stimulate growth of leaf and stalk more than fruit setting. About the only thing needed for them to make big crops on that soil is an application of dissolved South Carolina rock, of which usually 1,000 pounds are applied to the acre. The ground need not be plowed more than six or seven inches deep, and it should be well prepared, and then well packed down before planting. The aim is to make narrow matted rows.

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Current Comments.

Growing Peppers. — Kindly give me some information in regard to the growing of red peppers for market, as to varieties, cultivation, character of soil required, how to fertilize and where to market, etc.
Williamsburg, Md. E. B. CHURCH.

Growing peppers, of any kind, and in any desired quantity, is one of the least difficult tasks which any gardener might undertake. I have grown them on sand, on sandy loam and on clay loam with equal success, although I would slightly prefer a well drained yet moist soil, having more or less sand in its makeup; in other words, a good loam. It should be quite rich in order to bring large yields. No great difficulties are met with in the matter of raising the plants. Seed usually sprouts readily in a moderate temperature, such as, for instance, is needed for sprouting tomato seeds, and the plants may be started even later in the season, here, say in April, in greenhouse or hotbed, or even cold frame, and will require far less room for each individual plant, up to the time of final setting out than tomato plants or eggplants. We usually transplant the young seedlings, when a couple of inches high, or having three or four true leaves, into flats or in a cold frame, making the rows 2½ or 3 inches apart, and setting the plants an inch or so apart in the rows. A good many plants can thus be grown in a small space. They transplant easily, even in somewhat dry and hot weather. We put them out in open ground early in June (in Maryland you can do it earlier) making the rows 2½ or 3 feet apart for convenience in cultivating by horse power, and leave a foot or more of space between the plants in the rows. On rich soil (it can, or should be very rich, in fact) the plants will crowd the rows pretty closely, and produce a large crop of peppers, continuing to set and perfect fruit to the very end of the season. The plants with us have but very few enemies, flea beetles being the worst in the early life of the plant with us. You will have to guard against cutworms if the land is infested with them. Flea beetles are easily driven away by dusting the plants with tobacco dust or land plaster, or spraying with Bordeaux mixture, which latter is also a protection against the attacks of blights. Cutworms can be disposed of by hand picking or poisoning with poisoned bran. I have seldom had any trouble from blights. My favorite variety for general purposes for years, has been Ruby King, and I consider it the best red for market, and Golden Queen and Golden Dawn the best of the yellow sorts. For a small fiery sort, both for market and home use, we prefer long Cayenne, and the small Tobasco from which the celebrated pungent sauce or relish of that name is made. Peppers are usually marketed in small baskets, and retailed by the piece or dozen. The market demands both green and ripe peppers. Pick the fruits clean as soon as of the proper stage of development desired, if you want the plants to continue long in bearing.

Horse Radish for Market.—In an article on horse radish culture, cut from a Western paper several years ago, I find the following directions for planting and harvesting the root: "Plant on a gentle slope, and when harvesting plow a light furrow on the lower side of row, or dig the earth loose with spade or hoe; then with a sharp knife cut out the roots, throwing earth back, leaving the tops to grow another year or so." Would there be any advantage in this way, or would you advise preparing new ground and new sets each year? I have some rich ground sloping to the north. Maule's catalogue says to put crown of sets from 3 to 6 inches under surface. Burpee says to plant 1 inch under surface. Which is best?
Wellsburg, W. Va. WM. H. TARR, JR.

Commercial horse radish growers would not generally recommend or follow the plan mentioned by the Western paper. The horse radish crop is usually wedged in as a second crop, and to make it most profitable, the ground must be deep, very rich, clean, and moist, in order to make a good sized, smooth and straight root in four or five months' time from planting the set. Tops are seldom used for planting, simply because there is so much uncertainty of how the roots will develop. What we want is one thick, straight root with as few side branches as possible. The top, if planted or left, is liable to send a number of roots down into the ground, all of which will remain undersized and spraying. If a straight set is planted, we have the beginning of a good root. How deep to put the set under the ground, depends on length of set and depth of good soil. If the soil is deep, and the set comparatively short, I would place the top end of set three inches or more below the surface level, while a long set in shallow soil may reach up to within an inch of surface.

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Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

The Curculio on Plums.

In these days the use of poisonous liquids to destroy injurious insects is so common that the good old plan of jarring the trees to bring down the curculio insect is rarely thought of. Yet, where faithfully followed up, it will insure a crop of fruit to a certainty. What the New York orchard men do now-a-days I do not know, but for years they relied, and safely, too, on the jarring of the trees. Their plan was as follows: When the trees blossomed and the fruit began to set, the ground under the trees was made smooth and clean. Then, as soon as the curculio commenced operations, a sheet was spread around the tree and a quick jarring of the tree performed, bringing down the stung fruit and the insects, too; both of which were at once destroyed. The work was performed daily as long as the curculios were observed, and resulted in large crops of fruit. When the insect falls, it, fortunately, lies still, affording a chance to gather up the sheet and destroy its contents. Some fruit will be stung, but not enough to seriously lessen the crop, the daily shaking of the tree bringing down the most of the insects before they have commenced work. In this way crops can be obtained; and in many cases it may be preferred to the spraying. One thing is absolutely essential, to stick at it every day until insects cease their visits.

Huckleberries.

A correspondent, T. W. Tingley, Gibson, Pa., sends us the following communication on huckelberries:

"Some time ago I saw in the P. F. inquiries as to whether huckleberries could be successfully raised on upland. Having seen no reply to the inquiry, will state a little of my experience with them. About forty years ago I went into a swamp on my father's farm, where they grew, and took up several clumps of the bushes and set them out near my house on the bank of a small stream where the ground was likely to be moist most of the year. Have since transplanted smaller bushes onto drier ground and they have done well. If they can be set so as to get the benefit of the house slops they will grow vigorously and bear bountifully, although set upon ground naturally dry. We have had berries from the start, but of course only a few the first three or four years. We have both the blue and black. They do not ripen all at once, but scatteringly over the bushes, and then some bushes do not commence to ripen as early as others, so we can have fresh berries from the bushes for five or six weeks." This quite agrees with our own experience. In this vicinity huckleberries abound naturally on high ground. Transplanted to the garden, being well cut back at the time, they succeed and fruit well. The blue berry, which is Vaccinium Corymbosum, is found only in swamps, but I have had these to thrive well in high ground in the garden. Not only is it valuable as a fruit, but because of its brilliant scarlet leaves in late fall, it is often planted for its ornamental features; and when looking on it in this light its pretty sprays of white flowers, in spring, must not be forgotten.

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Horticultural Queries.

Gooseberry Query.—I have bought 300 gooseberry bushes from a New York nursery, to be delivered this spring. Please tell me how they should be set out and the best method of pruning for the best results.
Duff, Ind. J. M. UTZ.

Set the bushes about 4 feet apart each way. When planting them tramp the soil firmly about the roots. If well rooted and in good condition but little pruning will be required. If branches appear too close together cut some of them clean out; and it will be an advantage to shorten back the remaining shoots. Another season but little pruning will be required. Leaf fungus attacks the foliage of gooseberries at times, and it is as well to prevent it by spraying with Bordeaux mixture when foliage is in perfection, say early June.

Memorial Rose.—Among creeping plants for graves few are more beautiful than the Memorial rose. Its dark, glossy leaves cover the ground as completely as ivy or myrtle, and its small flowers are fragrant and lovely in their season. Madame Plantier is one of the hardiest. SUBSCRIBER.
White Plains, N. Y.

This hint is much appreciated. The rose is a splendid one. Its shoots lie prostrate on the ground, and growing rapidly, soon overspread the grave; and then it is so very hardy. For an upright grower, Madame Plantier is very good, and it is as hardy as can be. In the vicinity of Philadelphia we have a better bush sort in Clothilde Soupert, an everblooming white rose. From June until freezing weather comes it is always blooming. Doubtless it would thrive in New York as well, were a little soil piled around the base of the plants so as to cover three or four inches of its shoots in winter.

Various Queries.—Please give instructions for propagating the Magnolia Grandiflora. What kind of fruit is the Punica Granatum? Is it of any value, and could it be raised in this climate? How is the Cedrus Deodora propagated? Is there a difference in the Elæagnus Longipes and the Elæagnus Edulis? SUBSCRIBER.
Gibson, Miss.

The usual method of propagating Magnolia Grandiflora is by seeds. Gather them as soon as the pods open, keeping them in slightly damp soil, sowing them outdoors in spring. This is our Northern method. I should say that in Mississippi you could sow them outdoors as soon as ripe, as we do our hardy Northern sorts. Punica Granatum is the pomegranate. The fruit is edible, but it has never been thought worthy of growing except as a dainty dish. You could grow it readily, as it will live outdoors when protected slightly, even here, where it is zero weather occasionally. Culun Deodora is easily raised from seeds. Elæagnus Longipes and E. Edulis are the same, but many nurserymen seem not to know it, and send out Umbellata when Edulis is called for. But even among botanists there is confusion of names in Elæagnus.

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POULTRY.

This department is under the editorial charge of A. F. Hunter. All letters, inquiries and requests should be addressed to him at the Practical Farmer office, P. O. Box 1317, Philadelphia.

Winter Care of Hens.

EDW. E. HIGGINS.

[NOTE.—In Jan. 17th P. F. we published an interesting communication from Mr. Higgins, entitled "Leghorns as Winter Layers." A lady reader in California asked to have Mr. H. tell "how" he gets such results, and he kindly tells us in this letter.—ED.]

Being requested for more explicit information than was given in our former article, we will endeavor as far as possible to explain our manner of caring for hens. As we stated, our hens are kept confined a great deal through the months of January and February, so in order to keep them from freezing, good, warm hen houses must be provided. This we have endeavored to do, so that our hens are made comfortable on the coldest days. We do not allow our hens out when there is snow on the ground; we rely on our thermometer as a guide, never turning them out unless it registers above the freezing point. Of course, the hens would not ordinarily enjoy being kept housed, especially in a cold building, but we give them a great deal of attention in freezing weather and aim to supply their wants, giving them something to do to keep them cheerful; a fresh sack of straw thrown down for them to scratch in, or some broken ears of corn, or a head of cabbage for them to pick at on a cold day, will work wonders in making biddy contented.

Another item often overlooked, and one by which we believe that the general health of our flock is preserved, is in furnishing plenty of good, sharp grit. This gives good digestion, which almost wholly determines the health of a flock of chickens. We believe that a great deal of so-called cholera among poultry raisers is usually indigestion, caused by an insufficient or improper supply of grit. Crushed granite makes the best grit that we ever used; oyster shells are too soft to properly digest the food, but it is well to give shells in connection with the grit.

Our main point in feeding is to provide a variety; we almost invariably feed a mash for breakfast; this is composed of good wheat bran, boiled potatoes or turnips, all available table scraps, and meat meal. The meat meal is not given in large quantities. At noon we give wheat, either screenings or the pure wheat, and at night we give a liberal supply of corn. We aim not to overfeed, but do aim to give the hens all that they will eat and maintain a good appetite. Some people get so afraid of overfeeding that they knock the bottom out of the egg basket. We always provide our hens plenty of drink, all milk that can be spared is given them. The pullets that made up our last year's flock were composed of three hatches, coming out the 19th of April, the 12th of May, and the 3rd of June; this latter hatch was most too late, and we believe that the results would have been greater had they all been hatched in April or early May.

We received from 20 to 25 cents per dozen for our eggs during January and February of last year, the gross earnings for the two months being 44 cents per hen. The returns of a little less than $2 per hen mentioned in our former article, were the gross earnings, but 75 cents per hen will cover the cost of feed, leaving a greater net profit than what we formerly thought that they could earn in gross receipts, yet we know that there are even greater possibilities, and that we are only a beginner in feeding for eggs.

Crow Summit, W. Va.

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Poultry Queries.

Sundry Queries.—H. L. Penn, Plessis, N. Y., writes: "1. How many hens can be kept in a poultry house 36x12 feet, with a scratching shed 36x11 feet adjoining? 2. Also how to ventilate a hen house which has a dirt floor and is damp? 3. Would you recommend the feeding of bone meal to laying hens, and if so, in what quantity and how prepared? 4. What is the cause of blood in droppings of hens which appear otherwise healthy?" 1. Your house 36x12 feet would be much better divided into three pens 12x12 each. Can you divide the scratching shed into three apartments (12x11) also? If so, and you can give a shed apartment to each pen you could comfortably house 100 to 120 birds in three flocks of 33 to 40 each. The house alone divided into three pens 12x12 would comfortably carry 75. 2. Ventilate the house by opening the doors and windows in the middle of the day when the sun is shining, and air it out exactly as you would air out your own bed-room. It is the condensed moisture of the breath of the fowls that makes the house damp, and "airing it out" will correct that fault—also will make the fowls healthier. 3. A little bone meal is all right to feed, but bone meal is an incomplete animal food, because the bone is cooked before grinding and all the animal matter extracted from it. If you feed a good meat meal (such as Romaine's "B. B. & B." or Bowker's "Animal Meal") you won't need bone meal because those meat meals are both meat and bone. 4. Are you sure that it is blood in the droppings? It may be blood caused by a straining of the bowel muscles, or it may be worms having the color of blood. If it is real blood the birds are out of condition through improper feeding, or lack of exercise, or lack of green food, etc.

Good Laying.—W. E. S., Ainsworth, Ind., writes: "I have 27 B. P. Rock pullets which laid, in the month of January, 405 eggs. They have their roost-room and scratching shed, are fed oats in the morning in litter in shed, dry bran at noon and oats and wheat or corn at night. They have warm water if it is cold, and run out if it is not cold or snowy." That is an excellent egg-yield for January, almost fifty per cent., and is better than most farmers were getting at that time. If you have good Barred P. Rocks it would pay you to advertise in the P. F. and sell eggs for hatching. Many readers want to get stock of such good layers.

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FOUNDED IN 1855

Published Weekly by The Farmer Co.
P. O. Box 1317
S. E. Corner Market and 18th Streets
Philadelphia, Pa.

Entered at the Philadelphia post office as second-class matter.

PROF. W. F. MASSEY, Editor.

Philadelphia, April 18, 1903

The True Idea in Plant Breeding.

"You cannot evolute a pea into a bean nor a potato into a pumpkin." So says one of our exchanges out West. In other words, the development of any plant must be in the line laid down for it in the beginning. Some folks are industriously striving to make a protein plant out of our Indian corn. They will only get far enough to find that some kinds of corn will have more protein than others, and all will continue to be valuable as carbonaceous food. The breeding of any plant should be towards the development of its leading characteristics in a better shape, and not towards the introduction of characters that are not natural to it. The Irish potato and the tomato are close akin. But one is grown for its underground tuber and the other for the fruit produced above ground. The man who would strive to develop tuber bearing in the tomato, so as to grow potatoes and tomatoes on the same plant, would certainly fail. Just so with the corn plant. We can greatly increase its production by careful breeding, and we want it for just what it is, the finest of carbonaceous food to be had. And it is needed for just what it is and not for something else. You had as well try to breed cottonseed to take the place of corn, as to breed corn to take the place of cottonseed or any other protein food. And so far as we have observed, to the same extent the protein content is developed in corn, to that same extent it becomes less suited for general cultivation, as it will partake more of the flint character, which does not suit corn growers of the greater part of the corn-producing sections. Breeding any plant for characters that are more or less antagonistic to it is certain to lead to failure. We have an abundance of protein furnishing plants, and do not need to change the nature of the corn plant. Some one of the legumes will thrive in every section of the country and will furnish largely what the corn lacks. Hence we have no sympathy for the effort to change the nature of corn. Breed the corn carefully for its best production and leave the matter of protein out of the question.

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Renting Land.

Renting land for a share of the crop is the oldest, and in many ways, the best system that can be devised. But the mere renting for the season's crop, as is practiced in the cotton sections of the South, is about the worst plan that could be devised, both for the land owner and the tenant. A well settled system of tenant farming, in which the tenant really farms the land properly, and in which the expenses of carrying on the farm are as nearly as possible divided equally between owner and tenant, and the crops shared equally, leads, always, towards improvement, while mere annual cropping leads to ruin of land, tenant and owner. When the cost of running the farm is divided between landlord and tenant, both are concerned in making the outcome as large as possible, for both have an equal investment. A good farmer on a farm is worth as salary as much as the interest on the cost of the land. Put the one against the other, and then divide the other expenses as nearly as in the nature of the case is possible, and have a written contract stating just what the tenant is to furnish and what the landlord supplies. On a farm where grain growing is the chief object, and clover or peas are grown for feed, the tenant should not be taxed with rent on the stock kept to eat up the forage, for the farm gets the benefit of the clover and the manure made, and the tenant should be required to keep stock enough to eat up all the roughage and to save the manure in the best manner. The landlord will get his profit from the use of the manure on the land in the crops grown and shared. It will be easy in every section to build up the country instead of running the land down, by a good system of renting the farms. This method has been, and is being, put into successful operation in Eastern Maryland particularly, where the system of share farming has vastly improved whole counties. There will be no real prosperity in the culture of cotton until there is a system adopted that will compel tenants to farm instead of merely cropping the land in cotton and making it poorer and poorer every year. When men with capital come to have more faith in good farming and invest their means in small farms to be carried on by tenants on a well planned rotation and the cotton cropper is no more in the land, and men without means for farming properly have plenty of opportunity to hire their labor for cash, there will come a prosperity into the cotton belt that is now a stranger there. The great difficulty in the cotton country today is the lack of faith among men of means in improved farming, and the ignorance of the fact that good farming will pay a larger per cent. today than almost anything else they can put money into. With cheap lands, easily improved, and a climate that allows of a cropping system that leads to greater profit in live stock husbandry than anywhere else, the cotton country should be selling cattle instead of buying their beef and butter from the North, while at the same time a smaller area of land would be making greater crops of cotton, and farm homes would take the place of cabins. With the expenses made in the associated crops, the cotton crop would become really a money crop, a surplus crop. There are needed in the cotton country men like the late Wm. McKinney and Andrew Woodall, of Maryland, who have become millionaires by good farming, while their tenants have prospered, and the country has developed. These men enriched their counties while enriching themselves, and have shown that it pays to invest money in good farming. When will the capitalists of the South realize the opportunity? At present neither land owner nor cropper looks to the future of the land. The cropper is only concerned in getting what he can out of the land and something for himself and his mule to eat, and the owner to get all he can from the crop and the supplies he furnishes the tenant, and he expects usually to make as much out of the supplies as out of the crop.

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Cotton Farming.

A writer in the Prairie Farmer from South Carolina, gives a very pessimistic account of the farming there. So far as many sections of the cotton belt are concerned, the account is perfectly true. Depending on the cotton crop for everything else they need, for feed for mules, and for the mules themselves, for meat for the family, for flour and meal, with the capital of the farmer, the soil rapidly diminishing, and the cotton farmer year after year merely to pay for these things and for the fertilizer which is needed more and more as the clean cultivated soil is washed away, gets poorer and poorer, while the people who furnish him food, clothing, mules and fertilizers, get rich; and all the time he fails to see that the cause of his poverty is the one-crop idea and the living on his capital, the soil, which is constantly getting smaller, while he strives to keep up the ration of three bales of cotton to every steer fed. But while this is still true of large sections of the cotton belt, there are certainly many other sections where the leaven of improvement is working and the cotton farmers are really farming. Many sections where the farmers formerly kept their smokehouses in Chicago now have a surplus of cured home-made hams and bacon, and home-made bacon is no longer a rarity in the grocery stores of the cotton country. I have seen a South Carolina farmer, one who really farms, selling smoked bacon by the wagon load. And the men who are thus improving and are farming for cotton, are those who read the papers and study their profession and are growing more cotton than they formerly did and on fewer acres. The men in South Carolina who raise from one to two bales of cotton per acre—and there are many of them—are not the men who depend on the cotton crop for everything else. They are feeding stock, raising lambs for the early market and growing the crops to feed stock of all kinds. These men are growing more numerous every year, and they are to the manor born, and not newcomers; and such is the awakening among the young men that they are crowding into the agricultural courses of study at the colleges of agriculture. At the North Carolina College, where a few years ago there were but a dozen or so students in the agricultural course there are this year 129 agricultural students. When these men go out to the various sections of the State, whether farming their own lands or managing for others, they will form nuclei from which improvement will spread. These 129 students would have been 200 or more had the college had room for them, and with increasing facilities these colleges will be a power in the South in agricultural advancement. The writer has observed the advance in the South closely for the past fourteen years and knows that a vast advance has been made in that time. There is no section of the country where there is a more earnest desire to improve than in the South, and the Experiment Stations are continually being called upon for help and advice, and in at least one of them this correspondence with the farmers of the State constitutes the leading work in one department. Therefore, while there are all over the cotton country men almost hopelessly down in the old ruts, the young men on the Southern cotton farms are forging ahead, and will soon place the agriculture of the South on a plane with modern methods. For years back the South has been sending to the North the flower of her youth in greater numbers than she has received farmers from the North. But the statistics show a change in this respect. The young men of the South are more and more inclined to stay and build up the South not only in agriculture, but in every industrial line. Cotton mills are swarming all over the South and 90 per cent. of the capital in them is home capital, and more and more of them are being managed by young men trained at home. There is no need for looking on the agriculture of the South with evil forebodings, for there is much to cheer those who are spending their lives in its improvement. The Southern farmer is fast "getting there."

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THE FARMER CO.,
S. E. Cor. Market & 18th Sts., Philadelphia.
HENRY HARRIS, Business Manager.

Special Advertising Representative
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COMMERCIAL

Philadelphia, April 11, 1903.

WHEAT.—			
No. 2, red	78	@	78½
No. 2, Penna. and Del.	79	@	79½
CORN.—			
No. 2, yellow	49	@	49½
No. 3	42¾	@	43
OATS.—			
No. 2, white clipped	42½	@	43
BUTTER.—			
Western creamery, extra	30	@	30½
Western creamery, firsts	28	@	29½
Western creamery, seconds	23	@	25
Ladle packed, choice	16		
Ladle packed, ordinary	14	@	15
Nearby prints, extra	32	@	33
Firsts	30	@	31
Seconds	25	@	28
CHEESE.—			
N. Y., f. c.—Sep.			
Fancy, small	14¼	@	14½
Good to prime	13½	@	14
Fancy, large	14	@	14¼
Good to prime	13¼	@	13¾
State, part skims, prime	10	@	12
VEGETABLES.—			
Asparagus, So., bunch	15	@	35
Beans, So., per ½-bbl. bas.	3.00	@	3.50
Beets, Fla., ½-bbl. bas.	1.00	@	1.25
Cabbage, Danish, per ton	10.00	@	14.00
Cabbage, So., ½-bbl. crate	2.00	@	2.50
Cucumbers, Fla., per crate	4.00	@	5.00
Eggplant, Fla., per box	1.50	@	2.50
Lettuce, So., per ½-bbl. bas.	1.50	@	2.50
Kale, So., per bbl.	40	@	60
Onions, yellow, per bu.	50	@	55
Onions, Ohio Globe, per bbl.	1.00	@	1.50
Onions, N. Y. Gl. Danv., bbl.	75	@	1.25
Peas, So., per ½-bbl. basket	2.00	@	3.00
Radishes, N. C., bun. of 100	1.00	@	1.50
Spinach, So., per bbl.	1.00	@	1.50
Tomatoes, Florida, carrier	1.50	@	3.00
LIVE POULTRY.—			
Fowls, hens, per lb.	15½	@	16
Winter chickens, per lb.	16	@	20
DRESSED POULTRY.—			
Fresh killed fowls, choice	14½		
Fresh killed fowls, average	13½	@	14
Fresh killed, frozen, choice	13	@	13½
do do fair to good	12	@	12½
Nearby chickens, choice	16		
Average	14	@	15
EGGS.—			
Nearby fresh, at mark	15	@	15¼
Western, choice, at mark	15	@	15¼
Southern do do	14		
So. Western do do	14½	@	15
Duck eggs	27	@	28
Goose eggs	70	@	75
Re-crated, jobbed, 1@2c. above whol. prices.			
HAY AND STRAW.—			
Timothy, No. Pa., choice, l'g.	21.00	@	21.50
do Western	20.50	@	21.00
Timothy, Western, mixed	15.00	@	17.50
Straw, straight rye	16.50	@	17.50
Wheat	10.50	@	12.00
Oat	9.50	@	11.00
FEED.—			
Bran, bulk, winter, per ton	19.50	@	20.00
Bran, sacked, spring	19.50	@	20.00
City mills, 100-lb. sacks, ton	20.00		
COTTON.—			
Middling upland, cwt.	10.45		

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle active.

Extra steers	5¼	@	5½
Good steers	4¾	@	5
Medium steers	4½	@	4¾
Common steers	4¼	@	4½
CALVES.—			
Veal calves active.			
Extra calves	8	@	8½
Fair to good	6½	@	7½
Poor and common	5	@	6
Grassers	3	@	4
HOGS.—			
Hogs steady.			
Fat hogs, Pa., Del. & Md.	7	@	9½
Fat hogs, Western	10	@	10¼
SHEEP.—			
Sheep and lambs about steady.			
Sheep, extra wool	6½	@	6¾
Sheep, good	5¾	@	6¼
Sheep, medium	4¾	@	5½
Sheep, common	3	@	4¼
Spring lambs	5	@	8

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The New York Market Review.

Trading in butter has been on a very limited scale the past week, but supplies have not been large, and at times there has been a distinct shortage of fancy grades. Storage stock has, in some instances been called out to make good the shortage, and the steady reduction in held butter has been a noteworthy feature of the market. The creameries are beginning to open up in the dairy districts for the season's operation, and it is expected that within a fortnight receipts from these will affect market prices. State dairy and Western low-grade packings are in small receipt, but the market is not very active for them. Exporters are very quiet. Cheese continues in its former healthy state, and receipts continue moderate, demand good, and storage cheese in less and less supply. The narrow condition of the market has made it difficult for exporters to fill their orders, although they are anxiously looking for cheese at 12½ to 13c. per lb.; but very little suitable for their needs can be found for those prices. Some very old cheese of low grade is sold for this, but not much except skims and part skims.

Over thirty carloads of live poultry and 4,000 packages of dressed poultry arrived last week; but demand was good enough to absorb all of them. There is an active demand for good live fowls at a shade higher prices, while live young roosters are working out at full quotations. There continues a scarcity of live turkeys, and the few arriving are firmly held. Geese are slow and irregular, but live ducks and squabs are firm and wanted. Fresh killed poultry is in moderate receipt, and the market has hardly enough for current consumption. Very little poultry is arriving from the West, except fowls, and with stocks considerably reduced there is a steady call on storage frozen goods. Fancy nearby broilers and spring ducks are firm and wanted. Frozen turkeys and geese are dull, but frozen broilers, roasting chickens and capons have a steady demand.

The grain market has continued in fairly bullish condition, with occasional setbacks of a temporary nature. Wheat is steady because of a good European demand and a week of good exports. The condition of growing wheat continues to exercise some influence on prices, but there is too little definite knowledge concerning this to cause much trouble. Corn is firm and active, both for home and export interests. Seaboard clearances for the week were large, and foreign prices encouraging. Oats have had only a nominal speculative market, but cash oats have moved with their accustomed freedom. Rye continues dull at old prices, and barley shows little improvement either for feeding or malting.

Trade in dried beans and peas has been small the past week, and prices do not change much. There has been no export demand, and imported white beans have had difficulty in finding any customers. There is a pressure to sell for all grades. The market for hay and straw showed an improvement early in the week, but unfortunately it soon became burdened down with undergrades. Common stock and veritable trash are here in abundance, and there is absolutely no demand for either. Prime hay, on the other hand, has a steady movement, and there is no excess of stock. Almost the same is true of straw, except that free receipts of barge straw are now beginning to tell. From now on hay and straw by barges will arrive rather too freely for market conditions. Arrivals of eggs are heavy, and large accumulations are going rapidly into cold storage. The consumptive demand has greatly enlarged since the decline in prices, but hardly enough to keep pace with the heavy receipts. G. E. W.

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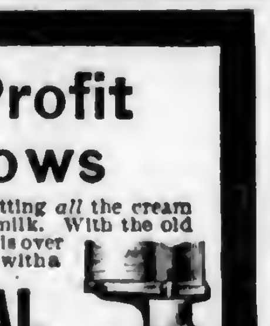
New York, April 11, 1903.

WHEAT.—			
No. 2, red	79½	@	79⅝
No. 1, Northern Duluth	87½	@	87⅝
CORN.—			
No. 2	58		
No. 2, white	53		
No. 2, yellow	52		
OATS.—			
No. 2, white	41½		
No. 2, mixed	41		
HAY.—			
Prime, large bales, 100 lbs.	1.00		1.05
BUTTER.—			
Creamery, extra	29		
Creamery, firsts	27	@	28½
Creamery, seconds	23	@	26
State dairy, tubs, fancy	27		
Other grades	17	@	20
Packing stock, solid packed	12	@	13½
Rolls, fresh, choice	15		
Rolls, com. to prime	12	@	14
CHEESE.—			
State, f. c., small—			
Fall made, colored, fancy	15		
White, fancy	14¾		
Colored, choice	14½	@	14¾
White, choice	14¼	@	14½
Good to prime	13¾	@	14
State, f. c., large—			
Fall made, fancy	14½	@	14¾
White, fancy	14¼	@	14½
Good to prime	13	@	13¾
State, light skims—			
Fall made, choice	12¾	@	13
Winter made, choice	11½		
State, part skims, prime	10	@	10½
Fair to good	9	@	9½
Common	6	@	7
State, full skims	4½	@	5
LIVE POULTRY.—			
Fowls, selected, heavy, lb.	15½		
Roosters, young, per lb.	13		
Turkeys, per lb.	15		
Ducks, average, per pair	70	@	1.00
Geese, average, per pair	90	@	1.37
Live pigeons, per pair	35	@	40
DRESSED POULTRY.—			
Fresh killed, iced—			
Turkeys, young hens & toms	16		
Chickens, Phila. broilers, lb.	35	@	40
State & Penna. broilers, lb.	25	@	30
Fowls, West., scalded, per lb.	13½	@	14½
Spring ducks, nearby, per lb.	25	@	30
Squabs, large, white, doz.	2.50		
Dark, per doz.	1.25	@	1.50
EGGS.—			
QUOTATIONS AT MARK.			
State, Pa. and nearby—			
Fancy selected white	16½		
Fresh gathered, firsts	15	@	15¼
Western—			
Fresh gathered, firsts	15		
Storage packed, firsts	15½		
Seconds	14½		
Ky., fresh gathered, firsts	14¾		
Seconds	14¼	@	14½
GREEN FRUITS.—			
Cranberries, Cape Cod bbl.	12.00	@	15.000
Crate	3.25	@	3.75
Grape fruit, Fla., box	6.00	@	10.00
Grape fruit, Cal., box	2.00	@	4.00
Pineapples, Fla., per crate	3.50	@	4.50
Tangerines, Cal., straps	2.50	@	4.50
VEGETABLES.—			
Asparagus—California—			
Green, prime, per doz.	3.00	@	6.00
White, prime, per doz.	2.00	@	4.50
Asparagus—Charleston—			
Colossal, per doz.	5.00	@	6.00
Extra prime, doz.	3.50	@	4.00
Prime, doz.	2.50	@	3.00
Short cut, doz.	2.00	@	3.00
Culls, doz.	1.50	@	1.75
Beets, small crate	75		
Old, per bbl.	50	@	75
Charleston, per 100	2.00	@	3.00
Carrots, old, per bag	50	@	75
New, per 100	2.00	@	3.00
Cabbage, carlots—			
Danish seed, per ton	6.00	@	12.00
Red, per barrel	40	@	80
Charleston, new, crate	2.50	@	3.00
Cucumbers, hothouse, No. 1s	1.00	@	1.37½
Medium, per doz.	75		
Celery, Fla., fancy, crate	3.00	@	3.50
Average, per crate	2.25	@	2.50
Cal., original, per crate	5.50	@	6.50
Eggplants, Fla., per crate	1.75	@	2.25
Lettuce, Fla., basket	1.00	@	2.00
N. C., per basket	1.50	@	2.50
Peas, So., 1-3-bbl. bas.	2.00	@	2.50
Radishes, per 100	1.50	@	2.00
Spinach, per bbl.	1.00	@	1.25
String beans.—			
Wax, crates	2.50	@	3.50
Green, crates	2.50	@	3.50
Turnips, Russia, bbl.	75	@	85
White, per bbl.	50	@	75
Tomatoes, Fla., fancy, car.	2.75	@	3.25
Fair to good, carrier	1.50	@	2.25
Green peppers, Fla., crate	1.50	@	1.75
Onions—			
Hard stock, yellow, bbl.	1.25	@	1.50
White, fancy	5.00	@	8.00
Hard stock, red, bbl.	90	@	1.00
POTATOES.—			
Bermuda, new, prime, bbl.	4.00	@	4.75
New, seconds, per bbl.	3.00	@	3.50
Southern, red, prime, bbl.	2.00	@	2.50
White, prime, per bbl.	1.75	@	2.00
Long Island, bulk, per bbl.	2.00	@	2.25
Maine, per sack	1.75	@	2.25
State and West., 180-lbs.	1.75	@	2.00
Sweets—			
Vineland, cloth top bbl.	2.75	@	3.75
South Jer., per basket	1.00	@	1.37
Del. & Md., per basket	1.00	@	1.25



Big Profit in Cows

is but a question of getting *all* the cream (butter fat) out of the milk. With the old setting system your loss is over 80 per cent greater than with a

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The Great French Veterinary Remedy.
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SUPERSEDES ALL CAUTERY OR FIRING
Impossible to produce any scar or blemish. The safest best Blister ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses or Cattle.

As a **HUMAN REMEDY** for **Rheumatism, Sprains, Sore Throat, Etc.**, it is invaluable.

WE GUARANTEE that one tablespoonful of **CAUSTIC BALSAM** will produce more actual results than a whole bottle of any liniment or spavin cure mixture ever made.

Every bottle of **Caustic Balsam** sold is Warranted to give satisfaction. Price **$1.50** per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address
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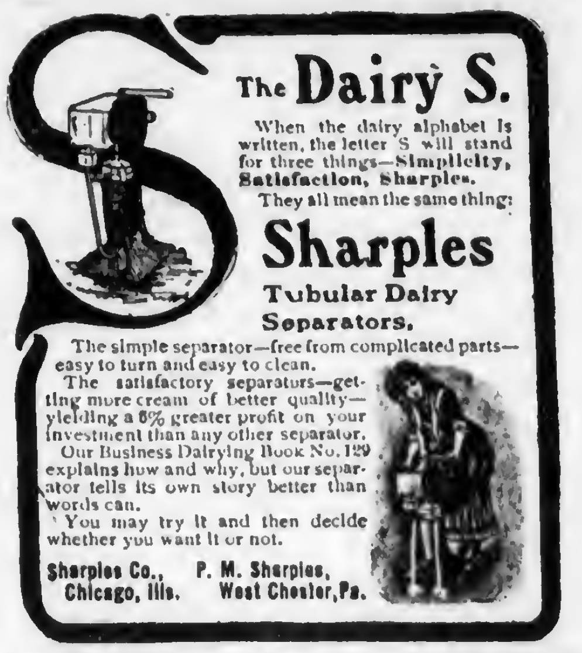

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The simple separator—free from complicated parts—easy to turn and easy to clean.
The satisfactory separator—getting more cream of better quality—yielding a 25% greater profit on your investment than any other separator.
Our Business Dairying Book No. 129 explains how and why, but our separator tells its own story better than words can.
You may try it and then decide whether you want it or not.

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NO HUMBUG. Three in One.
Swine V, Stock Marker and Calf Dehorner. Stops swine from rooting. Makes 48 different ear marks. Extracts Horns. Price $1.50. Send $1 for trial. If it works, send balance. Pat'd May 6, 1902. Hog and Calf Holder only 75c.
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Registered P. China, Berkshires & C. Whites, 8 wks to 6 mo.; mated; not akin; service Boars; Bred Sows. Write for prices and description. We refund the money and have them returned if not satisfied.
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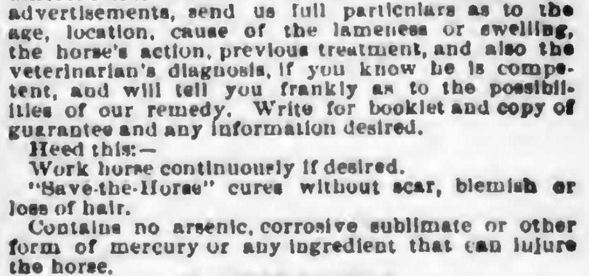

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POSITIVELY AND PERMANENTLY CURES Bone & Bog Spavin, Ringbone (except low ringbone), Curb, Thoroughpin, Splint, Capped Hock, Shoe Boil, Weak and Sprained Tendons and all Lameness.

—FOOL TALK—

About 35 years ago a young mechanic called on old Commodore Vanderbilt, then head of the New York Central Railroad, in an effort to secure a trial on a New York Central train of a device for stopping trains by compressed air.

"Air!" the Commodore is said to have exclaimed, "Air!" Stop a train with air! I've not time to listen to such "fool talk," young man," and he didn't. Neither would anyone else for many a long day.

George Westinghouse, for he was the man of the "fool talk," believed in himself and the utility of his invention. He kept right on in spite of Commodore Vanderbilt and the others, till he forced recognition. Would a man trust himself aboard a passenger train today, if he knew that train was not fully equipped with Westinghouse's invention—the air brake? It is said that Vanderbilt's Road had some difficulty in getting it when finally it was wanted.

Many a man says "fool talk" when he reads the claims made for "Save-the-Horse" spavin cure, but the dawn of enlightenment is as certain as the rising of the sun, and the man who says "fool talk" after reading the facts so plain and convincing as given by us, reaffirmed by the letters published in these columns every week, and in our booklet, is repeating Commodore Vanderbilt's mistake. No man need be in doubt as to what "Save-the-Horse" spavin cure can, and cannot do. If you have a case different from what are described in booklets and advertisements, send us full particulars as to the age, location, cause of the lameness or swelling, the horse's action, previous treatment, and also the veterinarian's diagnosis, if you know he be a competent, and we will tell you frankly as to the possibilities of our remedy. Write for booklet and copy of guarantee and any information desired.

Heed this—
Work horse continuously if desired.
"Save-the-Horse" cures without scar, blemish or loss of hair.
Contains no arsenic, corrosive sublimate or other form of mercury or any ingredient that can injure the horse.

$5.00 PER BOTTLE.
Written guarantee with every bottle.
There is no condition or arrangement we can make more binding to protect you than our guarantee.
NEED OF SECOND BOTTLE IS ALMOST IMPROBABLE, EXCEPT IN RAREST OF CASES.
$5.00, at all druggists and dealers, or express prepaid.
TROY CHEMICAL CO., Troy, N. Y., manufacturers.

Any Horseman
of experience knows that there is no Liniment so efficient and absorbent and quick as well in its action as
Sloan's Liniment
It is not a cheap wash but a genuine pain reliever and scientifically curative preparation.
Sold by all Dealers. Horse size, 50c. and $1 per bottle. Family size, 25c.

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Editorial Chat.

We regret to announce that our shut-in, Ellen Kinney, is very ill—entire body badly swollen and sufferings intense. Sweetly she tries to comfort her troubled mother by assuring her "It won't be long now."

* * * * * * * *

Sometimes we think that the world is growing better; then again we are as firmly convinced that we are rushing toward total depravity. Some few have got there. A man living in our town and keeping his stock on a farm three miles out, would leave them without food or water and tied, four days at a time, during our coldest weather of the past winter. The neighbors have only of late become aware of the revolting truth. One cow lies dead now just where she fell—died for want of food and water. One rumor has it that a horse died under the same conditions. Be this as it may, the inhuman wretch confessed to his neglect in court and paid fine and costs amounting to $35. Thirty-five dollars! What is that to the indescribable agony endured by those poor beasts during days when he kept close to his fireside and ate and drank his fill. We wonder if there is one man who reads the P. F. who would be guilty of such crime. We feel sure there is not; but if there is even a careless one or a careless boy, let us entreat of you to remember that a dumb creature is as capable of suffering as is a human being, and "as ye mete it shall be measured to you again."

Parents, teach your children to be just and kind. You will never regret it if you do; you may regret it if you do not. The hand that strangles the pet kitten now may one day pierce your own heart through.

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Will say to the author of the article, "Tea," it is too much in the nature of an essay to be available for our limited space. It awaits your orders.

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Did we tell you about the Egg Club? We do not remember to have done so as yet. A few friends of the Christian Home at Council Bluffs, Iowa, have fallen upon the following plan to help the hungry, homeless little ones there. All the eggs laid on Sunday are kept careful count of and the proceeds given to the Home. Isn't this a plan that makes it possible for every farmer's wife to fulfill the command, "Feed my lambs!"

We keep a record of all names sent us for membership, and once a quarter hope to be notified of amount earned during the time, that we may mention it in the Christian Home paper for the encouragement of others. Send the money once a quarter, direct to the Home, mentioning that it is egg money. Interest the children in this.

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Prize Article.

My Poultry Experience.

GRACIE YOST.

I have been quite successful in poultry raising on a small scale, and with natural means. Have raised both chickens and turkeys. Started last spring with about 75 hens and 4 turkeys (3 hens and a gobbler). The first hens were set on thirteen eggs apiece, about March 1st. Always set two hens at a time and set all as early as possible, because early chickens bring best prices and seem to grow faster. Each hen was set in a small box or coop, apart from the laying hens. A barn floor is a good place to put them. The sitting hens were all let off every other night and fed and watered. They are kept shut in the boxes, so they cannot leave their eggs to get cold. Eggs were dusted with insect powder several times. When hatched, the chickens from the eggs of two hens were put with one hen. If too cold to be out doors they were still kept in the barn. The chicks were fed, the first few weeks, five times a day, on Johnny cake made of corn meal mixed with buttermilk, with a little salt and soda, and well baked. Chickens are dusted occasionally with insect powder. The hens are kept shut in coops until the chickens are about a month old, but the little chicks have free range. Pens made of lath are placed in front of each coop, for the chicks to eat in, so that each litter may eat by themselves and not be crowded. They will soon learn their "home." Every time they were fed they were given fresh, cold water; this is very important. As soon as they were old enough to eat it, the chicks were given corn. They also had access to grit and green grass. Two hundred chickens were raised, all hatched before the middle of June. The first litters were sold in July for 10 cents a pound, and weighed three pounds apiece. Some have been sold nearly every month since, bringing in all about $35. Have 100 hens left now.

The turkeys' first laying of eggs was gathered and put under hens, eleven eggs to a hen. They were treated the same as hens on hens' eggs. The young turks were kept separate from the chickens. They (the turks) were fed bread soaked in sweet milk, and a little of the Johnny cake, before mentioned. They were kept in a pen until the grass was dry in the morning, until two weeks old. Were then allowed to run with hens during the day. The turkeys were allowed to sit on their second laying of eggs. When hatched they all wandered to the fields and were never fed at all. They were hunted up every few days, but they did not go far away. In the fall these turkeys came to the house of their own free will and were fed corn. The turkeys only lost one or two of their flock, while of those with the hens, fed at the house, quite a number died. The crows, or else boys, took all the eggs out of one turkey's nest. The season was very wet and cold, so very fatal to young turks, but 35 were raised. Prices were good. The largest were sold in November for eleven cents a pound; the rest just before Christmas, for 12 cents a pound, bringing in all about $32 with three hen turkeys left to keep over. I have not been "making a business" of poultry raising, only doing what I could to earn a little extra pin money, besides helping with all the work in the house, of which there is always plenty on a farm. I have $70 from my poultry, besides plenty of time for other work and for pleasure. This money will buy many a little luxury, but it is no more than any farmer's wife or daughter can do. When money must be earned, without going outside the home, this is the surest and most successful plan.

Albion, Mich.

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Prize Article.

Market Gardening

E. V. HARTMAN.

There is no easy, short cut way of gardening. To be successful one must be alert, energetic and ready to take up a good thing when it presents itself. Of all the things that are important, a good, steady market for what you produce is most so. It does not pay, as a rule to try to create a market, but rather raise those things that are in demand. But first of all be sure of your market. Of course location and nature of soil will have something to do with your success or failure. Select a not too sloping piece of ground; a sandy loam. It should be made fertile by application of well composted stable manure. The sandy nature of the soil, together with its great fertility, will cause it to produce extra early crops, and that is what every gardener is after, for therein lies his greatest profits. In order to have early plants—cabbage, tomato, pepper, celery, cauliflower, etc., the gardener will have to have a hotbed or greenhouse. A hotbed is cheaper and can be made thus: Dig a hole in the ground three feet deep, three feet wide and six feet long, or as long as you will need for your plants. Fill this hole full of fine horse manure, and tramp very solid; fill again and tramp until hole is filled to within a few inches of the top. Fill these few inches with a sandy loam soil. Fix a wooden frame around same with the north side a few inches higher than the opposite one. Now it is ready for the glass. Let the first great heat subside and you are ready to put the seed in. Before putting in seed rake over the soil in hotbed, as this process will kill all weeds that have started to grow by this time, and, too, will save quite a little labor later when your plants are growing. I might say here, it is a poor plan to set out hothouse or hotbed plants unless they have been properly hardened; the change has to be gradual or not at all.

My first planting outdoors is usually done just as soon as the frost is out of the ground two or three inches (the soil being dug or plowed the fall previous). Then I sow radish, Early Scarlet Globe, first early, and White Strasburg to come on later; lettuce, Black Seeded Simpson, and mustard, White Chinese. A little later I plant my peas, Alaska for early, Perfection for medium and Champion of England for main crop. Planted at same time they will give succession of crop. Beans, Early Valentine, Davis White Wax and Lazy Wife, together with the limas, both bush and pole, Burpee's and King of the Garden. Beets, Early Egyptian. Tomatoes, Dwarf Champion. Celery, Giant Pascal. Cabbage, Wakefield for early, Holland for late. Cucumbers, Russian, early, and Long Green. Sweet corn, Cory for early and Stowell's Evergreen for late. Melon, Osage. In the above I have given you my list which I have found to be standard for me. They are all well tried sorts and will always please if well taken care of. A market garden of a few acres will often prove to be more profitable than a whole farm devoted to ordinary farm crops. But it means work, work never-ending, together with the pleasure and delight of producing fine paying crops that delight the eye and satisfy the stomach of man.

Roscoe, Ill.

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Home Fancy Work.

MABEL KRESKY KNOER.

I believe I promised something extra to the H. C. and I now try to explain what it is. As the whole world seems to have gone wild over crocheted or knitted shawls, to take the place of the old time fascinator, I will say that this article is something entirely new in a shoulder shawl. It is circular in shape, but to tell of its beauty is not in my power. It has to be seen. As to its make up, take a No. 9 fence wire or copper wire of same size, about 14 inches long, and bend in the shape of a hairpin. It must be very smooth. On this make the old-time hairpin lace of braid. The prongs of wire should be one and a half inches apart, or wider if wanted. On this wire you can crochet as much as you can handle, or a whole skein of floss. I use Shetland floss, which weighs exactly one ounce to each skein. I make a string of braid long enough to use one-half of a skein, then break off and begin over again, as it is hard to handle more at a time. To make it into the shawl, gather up 60 loops and tie on a strong thread the color of the floss. Break off braid and tie ends firmly so they won't ravel, and try to make it so as not to show the joining. This is the centre of shawl. Second row, take up one loop of first row and pull through it one loop of the second row, then one of first row through this, then one of second row; continue until you have three loops of first row and three of second row, then pull two loops at a time through the last one of the first row. Then loop for loop again. Continue around this way except that every fourth stitch on the second round must be two loops so as to widen. When around, break off braid and fasten again. Continue adding new rounds in the same way until the shawl is large enough to suit, without a border, except that the widenings all must come at every third loop, or, if the shawl is very large, every other loop. When the body part is large enough for the border, begin by drawing through loop for loop for twelve loops, then draw six of border through one of shawl, one of border, one of shawl, six of border, one of shawl, then loop for loop for twelve loops more, six of border to one of shawl, one of border to one of shawl, six of border, etc., all around. Break braid and fasten. Second row of border begin by taking up six loops of new braid or the row you are just about to put on, and draw through one loop of previous row, being sure to take the first loop at right-hand side (be sure to get the three loops that are directly in the centre of the shell made in previous round. Only, of course, you use the loops on the bottom of the braid) of the three centre loops, then loop for loop, then six loops through one again. Make one of these shells right beneath every one you made in previous row clear around. To make this more plain, will say body of shawl is white, trimming is pink. The first row of border must then be pink. When you put the pink on you made the shells with twelve plain loops between. Now your second row of border is white and you are putting a shell beneath each previous shell and in between these shells you gather and make a shell of the pink loops same as you did the white ones, only they are turned upside down. This leaves a few plain loops for loop stitches on each side of this pink shell, and the white one you are putting on. The gathering of both sides of the pink row makes the ruffled and pointed part of the border. Third row, put on same as the second row, and should be pink, then two rows of white and one of pink. The first row of border (both edges) should be put on with the shawl turned wrong side up when on the lap at work. See that it is right side up other times, except while putting on the rings, when it must be wrong side up to make them hang right side out. To make these rings, wind yarn seven times around your finger and crochet all around the ring thus made with single crochet stitches. When made, fasten it to three loops and break yarn. Make more and continue around shawl as a finish. This is hard to describe, but to any one used to the hairpin lace it will be simple. When finished it will be the envy of all who see it. It requires from nine to twelve full-weight ounces, according to the amount of stitches used in widening on body. This is entirely original with myself, and everybody who sees it says it is the prettiest thing of the kind they have ever seen. I have even been stopped on the street by entire strangers, who wanted to look at my shawl. Would say rings may be part pink and part white or all one color. Anyone who desires more information must send stamped and addressed envelope or I will pay no attenion.

Huntland, Tenn.

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Spring Care of Horses.

ALBERT MURPHY.

On the principle that "Prevention is better than cure," I aim to so care for my teams that there will be the least possible existing difference between winter and spring. It is better for man or beast to be regularly employed and properly fed. I aim to employ my teams during the winter, and avoid the necessity of hauling wood, feed or anything after the special strain of spring work begins. I feed, mainly, good clover hay, with almost no grain, except at noon, when there is not sufficient time to eat hay. Such feed and exercise keeps the system in good condition, and makes plenty of good, solid muscle to go into spring work. Horses that cannot be employed in winter should be just as properly fed, and given plenty of out-door range, and only stabled in bad weather.

The pinching cold will drive them to the needed exercise, and they will be in much better condition for spring work than if confined in a warm barn. A common mistake is to overfeed and overwork on commencing spring work. As plowing time approaches, we should manage some way to get the teams seasoned to work, for it is unwise and cruel to exact full work at first. Great care should be given to fitting the collar and hames. Let the collar fit snugly; but not bind. There should be just room enough to pass a man's hand in between the lower part of the neck and the collar. Don't forget that the collar will get "too big" after a few days work, and should be kept properly adjusted. The hame straps should be kept tight, and if the shoulders are inclined to sweeney the top hame strap should be almost uncomfortably tight. I have found nothing better to prevent galling than to thoroughly bathe and wash the shoulders with clear, cold water every night, and keep the collars clean. Water and feed are, in part, a habit, and should be given regularly. I take it for granted that it does a horse good to roll, and I believe that when the day's work is done and the harness off, he should have the opportunity, in a good clean place, outside the stable. Tired horses usually lie down at night, and should have a good bed, free from cobs or rough stalks. And last, but not least, the man that allows his horses raced about at nights and on Sundays, during the special strain of spring work, should be looked after by the humane society.

Gordonsville, Va.

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Rugs.

A P. F. FARMER'S PRACTICAL WIFE.

To make rugs of old ingrain carpet there are two ways. One is to cut the carpet in strips lengthwise (cutting crosswise will ravel out the wool if the carpet is not all wool) about two and a half inches wide, ravel each edge to within one-quarter inch of the middle, as one-half inch is enough to leave. Sew together and wind into balls the same as ordinary carpet rags, and when the weaver weaves them she will pick up the fringe on one side and the rug is very pretty and serviceable. Another way is to cut the strip bias and wet and then beat around something hard until raveled considerably on the edge. If the ends of the rug have a stripe of a different carpet it looks nicer, and if the weaver will put in a coarse carpet rag every other time they are stronger. Our weaver charges one dollar a yard to furnish the warp and weave them, but you take the carpet to her and she prepares it, which requires some time.

Do the P. F. housekeepers know that just a strip of hit and miss carpet, about one and a half yards long, with a pretty stripe in each end, makes a very pretty rug? Also all kinds of old coats, cloaks and overcoats and heavy wool garments make nice rugs, if the weaver will leave ten threads and remove five, leave ten and remove five, as wide as the rug is to be, and weave the same as usual, with striped ends. These are called "seersucker rugs." Even a pair of old blankets, either wool or cotton, just made like rag carpet, makes a smooth mat to step out of bed on in cold mornings.

Well, this is a chapter on rugs. If I see it any more I will write on "Carpet," "A Farmer's Wife Making Money for Herself," and a continued story about chickens, as this is my hobby.

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The Sabbath Hour.

Frances N. Standing, Kemblesville, Pa., writes: I am a member of the Society of Friends (commonly called Quakers). Our views on religious matters differ somewhat from others, and some may not know what Friends' principles are. The most important is, we believe in the guidance of the Holy Spirit in everything. Christians can have great influence by their way of living. Life is a book of which we have but one edition; let each day's action, as it adds its page to the indestructible volume, be such as we shall be willing to have the world read. We are touching our fellowbeings on all sides. They are affected for good or evil by what we are, say or do. The ministry we believe is a gift from God. He qualifies and sets apart for the ministry whom He pleases, whether rich or poor, male or female. School learning is but a human accomplishment, though very useful, yet is no part of Christianity. Neither the acquirements of college, nor the formalities of human authority can furnish that humility which fitteth for God's teaching. The mind of man is too prone to be puffed up with a conceit of superiority, which leads from self denial and the daily cross, into pride and selfsufficiency, instead of waiting for and depending upon the wisdom and power of God, into a confidence in the wisdom of this world, and a devotional satisfaction in the round of external forms and ordinances, whereas those who worship God in the Spirit, rejoice in Christ Jesus, and have no confidence in the flesh. Why? Because "it is the Spirit that quickeneth; the flesh profiteth nothing." We believe the Gospel should be preached free. It is the free gift of God; it cannot be purchased with money. What He dispenses freely, every true Gospel minister, who is nothing more than a servant of Christ, is bound to give freely. To His disciples, whom He was about to send out to preach the Gospel of the Kingdom, He gave this charge: "Freely ye have received, freely give," directing them, as a workman is worth of his hire, to partake of provision that should be voluntarily set before them. It is the duty of the church to care for members who are unable to provide for themselves, ministers and others. Paul, rather than make the Gospel an expense to those to whom he preached, labored with his own hands. Prayer, we believe, should come from the same authority as the ministry.

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H. C. Improvement Society.

Sister Elizabeth, Hurlock, Md., writes: Is it too late now to join the H. C. I. S.? I have been intending to write since last spring. I understand we have to pledge to spend a dollar toward improving and beautifying our homes in order to become a member. I shall spend at least three dollars on roses and a few perennial plants. I wish the writers in the H. C. would tell us more about their flowers; what varieties they like best and which they are most successful with. The climate is such here that we can succeed with almost all monthly roses in the open ground. Roses are my pets. I have quite a collection, nearly forty named varieties in all, and several that I do not know the names of. I have a great many other flowers, and sixteen varieties of hardy shrubs; but this spring I must have the new crimson spirea, Anthony Wateur, and the yellow japonica.

[We welcome this genuine flower crank, and assure her she is eligible to H. C. I. S. membership. We hope she will come often. Speaking of flowers, we want to thank Sister May MacDonald, Lowell, Mass., for the fine cactus slip sent us a few days since, the Columbus. She writes: "I want to tell the sisters that the old-fashioned plant known as 'Live Forever,' will cure a felon or any sore from having a nail or fishhook run in. I know the truth of what I say. Boil the green leaves in lard and use when cold enough to be borne. I have an everblooming tea rose I would like to exchange for Clematis Jackman, or Rainbow Cactus." Her address is No. 406 Mammoth Road.—ED.]

March on!—The artistic hanging calendar of the Champion Harvesters begins with the spring month and carries one clear through to the next spring. It shows a handsome farm team refreshing themselves at the watering trough, and is in brilliant colors and handsome enough to please everyone. This art calendar is offered free to all of our readers who will send their name on a postal to Champion Division, International Harvester Co. of America, Chicago, and make request for same. We know this is an opportunity of which many will take advantage. Mention the P. F. when sending.

Not a good lamp chimney is made without my name on it.

MACBETH.

If you'll send your address, I'll send you the Index to Lamps and their Chimneys, to tell you what number to get for your lamp.

MACBETH, Pittsburgh.

Prize Puzzle

Who is it?

This is one of the Presidents who always used

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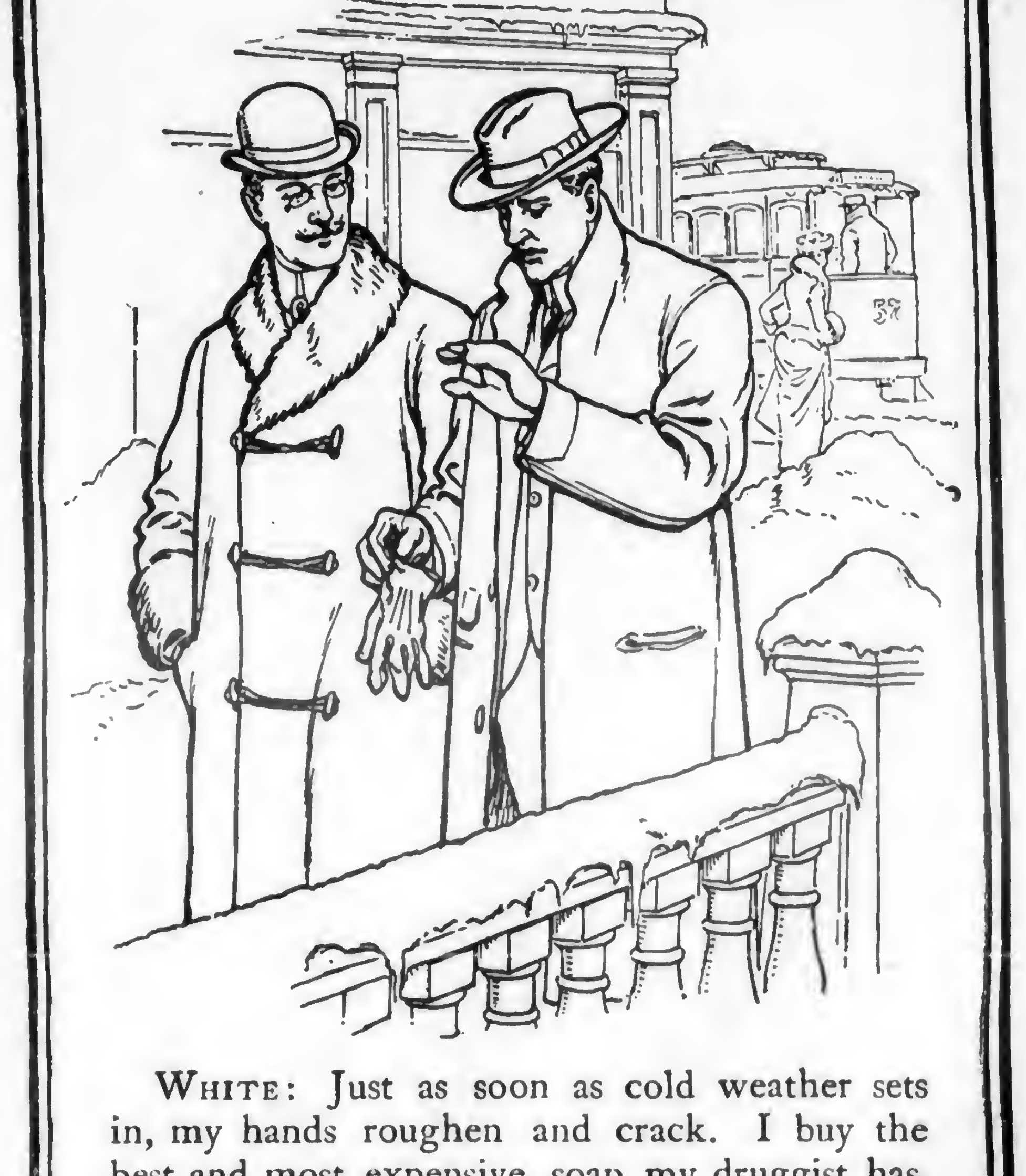

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WHITE: Just as soon as cold weather sets in, my hands roughen and crack. I buy the best and most expensive soap my druggist has, but the result is just the same—sore hands every winter.

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Topic No. 570, May 2.—*What is Your Experience in Stacking Hay Right from the Swath, and Have You Any Home-Made Derrick That Has Proved Economical of Time and Labor in the Stacking? Do You Use Fork, Horse Fork or Sling?*

Topic No. 571, May 9.—*Give us Your Experience with Alfalfa East of the Mississippi.*

Topic No. 572, May 16.—*Cherries for Market. Have You Found Them Profitable, and What are the Most Profitable Sorts?*

Topic No. 573, May 23.—*Give Your Experience with Portable Fruit Evaporators, and Tell How You Keep Worms Out of the Dried Fruit.*

Topic No. 568.—In Farming on Shares, What is Considered a Fair Rent in Your Section, and Should the Share Include the Poultry the Wife Raises?

Jno. Jellicorse, Dows, Tenn.—One-half the corn and wheat when the landlord finds seed, and one-third grain and tobacco is the rule here on good land, renter finding stock and tools. The tobacco is a coarse, large leaf, much of it 30 inches, sun dried. A sorry article, which requires the very best new land. Very little of such land is left. Of late years many charge house rent, which includes pasture for stock, and garden. Many farmers do not rent to tenants, but let neighbors who live in the hills back from the river, have so much land on shares, thus not being bothered with renters' stock. The renter system is bad from almost any point of view; only the owner will care for land and improve it. Rented land is soon worn-out land. When a farm is rented, giving full possession, money rent is always paid, and a rack rent at that. The tenant cannot afford to do anything but run the ground for all it is worth. Still there are a few renters who do well. These are either men with large families of boys, or small families with an extra good wife, who makes the family living with poultry, etc. I can call to mind several who rented of me 12 or 13 years ago who now own fair farms, one who has over 100 acres of good river land paid for, but can also call to mind several ambitious young fellows who actually killed themselves with hard work. You can see I don't think much of renting land, still I have nearly 30 acres rented for corn at one-half. I offered one man 60 acres on a three-year lease, one-third corn, one-third wheat and the other third clover or peas, for $100 a year. He would not think of it, still he would have given me $180 for the land one year and be glad to get it. This man has a pasture of his own which is making him nothing, and has been with me for years.

Frederick Spiker, Ten Mile, W. Va. — On cleared land the tenant pays one-third the crop, except when the landlord furnishes seed and fertilizer, when he gets half, the tenant harvesting and working it. When a tenant clears woodland he gets three or four crops for his pay, or part crops and part cash. Landlord has no share in the poultry the farmer's wife raises, and in many cases the owners will not allow poultry raised.

A. E. Bills, Richland City, Wis.—The tenant furnishes team and does all the work and pays half the crop and works or pays the road tax. He is allowed a garden. He must keep all the fences in repair, the owner furnishing the material. If posts are needed, the tenant cuts them. The tenant shears the sheep and delivers the wool to market and gets half. Poultry is part of the stock, and half the increase of all stock belongs to the tenant, and he is to leave the same number on the place, unless they die during his occupancy.

L. McCarter, Lisbon, Tenn.—We have two methods. In one the landlord furnishes the teams and tools and feed for the work teams, and the crop is divided equally. The most common method is where the tenant furnishes all stock, feed and tools, cultivates and harvests the crops and pays the landlord one-third of the corn, one-fourth of the cotton and one-fifth of the sorghum. In no case does the share include the poultry.

[Is no hay grown and are no cattle fed? Corn, cotton and sorghum make a very poor rotation for farming profitably.—ED.]

S. A. Hammond, Renrock, O.—We have been renting a farm for some years satisfactorily to both parties. We get house, garden, truck patch and pasture for two horses and two cows, with the privilege of raising poultry and a limited number of hogs. The rest of the stock is in partnership. The hay crop is fed on the farm, and if any is sold the proceeds are equally divided. Enough corn is kept to feed the partnership horses, and that sold is divided equally. Each party furnishes half the seed wheat and fertilizer, and the grain is divided equally at the machine. Tenant keeps up fences, and it is not common here to take rent for the poultry.

B. C. Grant, Corunna, Mich.—Owner furnishes half the seed, stock, team and tools, and gets half the sales of produce, including butter and milk, eggs and poultry. The tenant does all the work and each pays for threshing his share of the grain, the renter hauling to the market. The owner keeps buildings and fences in repair. Some owners furnish everything and pay the tenant one-third for his services, including the young stock raised. I think this is the better way.

W. B. Yarborough, Camden, Ark. — Our croppers' crops are cotton and corn. The tenant is furnished with tools and team, and the stock is fed, and generally we have to furnish the croppers' food and clothing and wait with them till the crop is gathered for pay. The cropper is allowed a garden and potato patch free of rent, and we receive half the cotton and corn. The owner reserves the right to plan the cropping. The wife is allowed the entire poultry.

J. A. Richards, Louisville, Ala.—Landlord furnishes land, mules, tools, seed and one-half the fertilizer, and gets half the crop. Renter has garden and truck patch free of rent and pays no share of the poultry. Renters are mostly negroes, and they often rent for a fixed charge in cotton or cash. From one-half to two and a half bales of cotton is considered fair rent for a farm of 35 acres, such as is called a one-horse farm.

C. M. Hunt, Gambles Store, N. C.—Rents differ with the crops. Farms having about equal portions of river bottom and upland rent for two-fifths of the corn, one-third of wheat, oats and rye, one-fourth of the cotton, and roughage same as corn. Farms all bottom land rent for one-half the crop. All upland at one-third of the corn, and for other crops the same as the farms partly bottom. The wife gets all the poultry she raises. This is right, for the chickens will destroy insects enough to pay for the grain they eat.

J. E. Hartman, North River, Va.—The tenant's share here is one-half the grain, grass, hay and fruit. Tenant has his vegetables and the wife all the poultry. Renter furnishes half the seed wheat, fertilizer and grass seed, builds the fences and cleans up fence rows. Owner keeps up repairs.

Harry Landis, Stony Brook, Pa.—In this section the tenant furnishes farm stock, implements, seed grain and half the grass seed, and gets half of all he raises except hay. Of this he gets all needed to feed the stock, both horses and cows, and if there is any excess he gets half of what is sold. Taxes are equally divided between the tenant and landlord. Most farmers keep 12 to 15 cows, and either make and sell butter, or sell milk, and make more money in this way than in simple farming. Cost of commercial fertilizers is divided between tenant and landlord, and the tenant's wife gets all she makes from the poultry.

Mrs. T. A. Shuff, New Berlin, Ill.—Here the landlord furnishes buildings and garden. Tenant furnishes team, tools, trims the hedges, pays all expenses of growing and harvesting crops and pays one-half the crop. In case of small grain, if he finds the seed, he gets two-thirds of the crop. The straw, stalk fields, etc., are divided equally. There are unimproved farms which rent for half the grain and $1 to $1.50 per acre, the owner furnishing neither house nor garden, and receiving the use of the stalk fields. The renter usually owns the poultry and raises as many as he chooses, the owner sometimes drawing the line at the turkeys and geese.

A. R. Borden, Gadan, Kan.—Here people generally buy a quarter section and rent adjoining land, for which they give one-fourth of the crops. Some rent cattle on shares for five years, at which time they are divided, the renter getting half the increase and half of the principal.

A. B. Rice, Lynnville, Ind.—For medium ground one-third the crop is paid, but if the land is extra good the landlord gets two-fifths of the corn. Where there is meadow land the renter puts up the hay on halves, and is allowed pasture free for one cow and the work horses. Where there is permanent pasture the owner stocks it and gives the tenant half the grain for caring for the stock. The tenant is allowed a truck patch of about one acre, and the wife gets all the poultry she raises. There is some kick on turkeys if they are not kept at home.

C. J. Moore, Morrisville, Vt.—Here, where the owner furnishes the stock, farming and dairy tools, one-half the seed and sometimes the work team and a cow for the family, one-half the income is considered a fair rent. The tenant is supposed to keep up the fences, and leave them as good as he finds them, except natural wear, and to leave the same value of stock and produce he finds on the place. If the poultry is raised on undivided grain it should be divided, but where only a few fowls are kept for family use there is usually no account made of them.

J. B. Johnston, New Wilmington, Pa.—If a man comes on my farm with a thousand dollars invested in stock and farming implements he gets a larger share than one who has only his labor, and uses my machinery, teams and cattle. No two tenants are, therefore in the same condition. Where the landlord furnishes everything the custom is to give the tenant the free use of the house, garden and fruit used by the family. He does all the work, including hauling, threshing, marketing grain, etc., and gets one-third of all he raises, including the increase of the stock, whether it be calves, colts or chickens. The chickens are on the same level as the sheep, are part of the landlord's investment, eat his feed and should give him a profit. Where the tenant furnishes everything but the land and buildings the bargain varies with the fertility of the land. Sometimes the landlord receives two-fifths of all grain, hay, fruit and vegetables the farm produces. Sometimes the bargain specifies that the tenant's half of hay and straw shall be fed on the farm. This requires the tenant to keep stock, and every landlord should do this to maintain the fertility of the farm. Tenant has pasture for his stock free, and also gets all the poultry raised from his own grain. He delivers the landlord's share at the nearest market town, pays one-half the taxes and keeps up the repairs of the fences.

J. W. Phillips, Lancaster, O.—Here farms are rented for half of everything, as a rule. Some land owners rent on the third and furnish everything but the labor. I live on a farm of 200 acres and get one-half the crops. My landlord furnishes half of the chickens and turkeys and gets half the eggs and young. All roughage is fed on the place. Each party furnishes half the fertilizers, equal numbers of hogs and sheep are fed together and the profits divided. Cattle are kept on the place by the land owner only. Pasture is furnished the tenant for five horses and three cows. He does not get any share of butter or milk. All stock and crops sold are delivered by the tenant. One dollar per day is paid for building fences and other improvements. All land owners are not alike, but this is the general practice.

L. A. Gibbs, R. D. 13, Fredonia, N. Y.—The rule here is for the tenant to have the house and garden plat of about half an acre, and farm buildings, and firewood if there is woodland. Each party to furnish one-half of all seeds and share equally in the proceeds. The pasture is stocked and the money divided. Hay is divided in the barn, corn when put in the crib, potatoes in the field, each party hauling his own share. All grain is divided at the threshing, each party paying his share of the threshing. All extra labor is paid for by the tenant. Landlord has no share in the poultry.

Mrs. H. W. Wallace, Cincinnati, O.—The landlord furnishes land, pasture for two horses, one cow and two or three hogs, house and garden and barn. The tenant agrees to farm the land properly and give one-half the produce as rent, and to furnish all needed implements, and to pay $50 for the use of pasture, house and garden. The wife can raise a reasonable amount of poultry and do as she pleases with it.

A. Grell, Michigan, N. Dak.—Here the landlord furnishes land and seed and gets one-half the crop, paying his own threshing bill. Sometimes the tenant has to haul the landlord's grain to the nearest market. If there is much hay the landlord gets from one-third to one-quarter of it in the stack, but if there is not much hay and the landlord is non-resident the practice is for the tenant to work out the road tax for the hay. The tenant has the use of what pasture there is for keeping fences in repair, and can raise as much stock as he chooses and it is none of the landlord's business. As for dividing the poultry, I never heard of such a thing. Any blood-sucker laying claim to a share of the poultry might as well claim a share of the children of the tenant's wife.

W. C. Rodgers, R. R. 4, Milan, Mo.—One-half the corn in crib and all the stalk field is considered a fair rent here. A few owners allow the tenant half the stalk field pasture. If the poultry is fed in partnership it should be divided, but if the tenant is feeding his own grain it should not. Most renters here furnish their own house or rent the farm house and land separately. Hay is cut and stacked and the stacks fenced for half the hay. When corn land rents for cash, $2 per acre is considered a fair price. Pasture land from $1 to $1.50 per acre.

G. Camerer, Madison, Ind. — The general idea here is for the tenant to furnish everything and pay one-half of all crops; corn divided by shocks in the field, and for the small grain the owner paying his share of the threshing. There are very few farms rented around here, and those who have them to rent want a cash rent and an enormous one at that, and the farm and the tenant get poorer each year. Share rent is the only proper thing where landlord and tenant take equal risk. As to the chickens a share of them would only lead to trouble. If the owner wants eggs and poultry let him buy them or raise them himself. It would be an imposition to expect a woman who works hard to raise a few chickens to divide them with an autocrat, who generally hints about unfair treatment. I have been there, and never do it nor expect my wife to do it. The women generally work hard enough to raise the chickens, and they are entitled to them.

SUMMARY.

The papers presented, though not near all that we were favored with, for some had to be left out for lack of space, give a very good idea of the practices that prevail in most parts of the country in regard to renting land on shares. Some method of sharing crops is the only proper way to farm land that the owner does not cultivate himself. Land rented for a cash rental is usually on the road to ruin, for the tenant naturally gets all he can out of it without regard to the future of the soil. It is a little odd to us, here in the eastern part of the country, to read about the raising of corn on shares and then the owner of the land having the use of the corn stalks left in the field. Perhaps this is the best way they can do as yet in the West, but the time is coming when they will wonder at the wastefulness of such a practice. It would seem to me that when a tenant has grown the corn crop that he should have a share, not only of the corn, but of the fodder, and the land will be the better for having no cattle in a stalk field. The corn should be cut and the fodder shredded, and if the tenant did this he ought to have the benefit of the roughage for all the stock he feeds on the farm will be returning manure to it. Some of our Western friends may smiles at the idea of manure being needed. We remember, over forty years ago, when we were surveying railroad lines on the Grand Divide of Missouri that they ridiculed the idea that their land would ever need manure. But year by year the use of the commercial fertilizers is extending westward, and in the renting of land some provision should always be made for the future of the land. The best system of rental, a system that has built up a large section and increased its productiveness, is for the landlord to put his farm as an offset to the services of a skilled farmer with team and tools, and then share as near alike as possible in the expenses of the place and share the crops equally. Of course, the tenant farms on a well considered rotation and is required to observe it. He is allowed to keep as much stock as the roughage will feed, all grain fed to them coming from his share, and the landlord taking the manure as his pay. In such an arrangement if there is nothing for the tenant there is nothing for the landlord, for both have an equal investment. Farmed in this way farms have been brought up from sterility to productiveness and have been profitable to tenant and landlord alike. Where the owner of the land merely seeks to get all he can out of it and grinds the tenant down to a hard bargain, it will, in the long run, rebound on him, and he will lose where he might have made. We know men who have become millionaires by buying land and renting it in a well considered share rent, and the tenants have accumulated property by reason of the far-sighted policy of the land owners. A well settled tenant system, devised so that there will be equal chance for tenant and landlord, and a well settled rotation, is a boon to any section, but as land is usually rented it is ruin to land, tenant and landlord.

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Make sure that the brand is right. Those named in list are genuine.

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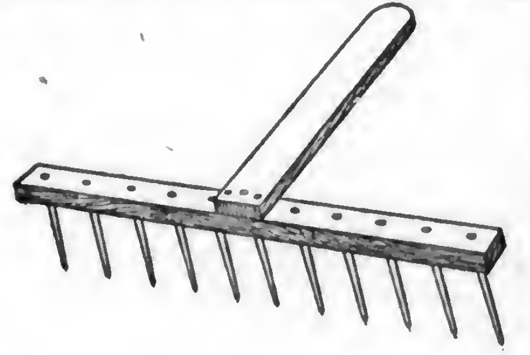
Farm Implement Annex
To The Practical Farmer.

It is the purpose of this department to assist P. F. readers in securing the best implements and machinery for doing their work, and to so adjust, manage and care for same as to get the best possible returns from their use. We invite subscribers to write us fully and freely in regard to farm implements and machinery. Pointers on selecting implements for various kinds of work and soil; on buying, operating and caring for them; their defects, improvements, attachments, adjustments, etc., will be welcome. A cash prize of 50 cents will be paid for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Put at top of each article For "Farm Implement Annex," and send to Geo. T. Pettit, Box 32, Oneida, Kan.

Experience with Wireless Corn Planter.—In the spring of 1902 I got a wireless corn planter on trial, and started in to plant 30 acres in one piece 60 rods long. On the side where I began planting the ground was level across the entire field. Here the planter kept in the marks right along and checked straight across as good as any wire planter, and I thought it was a success. When about one-third of the field was planted the land began to change from level to high and low ground, and I noticed that for a couple of rounds the springs on the spades began to be pressed back right along until they could go no further, and the spades got out of the mark just half the width of the corn row, where they kept on again. Here was a geometrical puzzle. I gained another half row in going over a hill, and before the field was finished had gained a couple more halves, just as sure as the hills increased in size, the result being that the rows across the field were cut in halves in several places. Then, too, where I turned around at the ends, the team would tramp over the marks, and I wasted time in setting the machine right. A neighbor had the same trouble with that kind of planter, so we returned them to the company. I would like to hear about the planter that has disk runners, as to how they compare with the sled runners. THOS. S. ARMAND.
Snyder, Neb.

[The disk planter has not yet come into use here, but will probably be introduced this spring. At our recent Farmers' Institute a gentleman described the working of a disk furrowing attachment which is made to fit the common shoe planter, the disks running ahead of the shoe and opening a furrow in which the corn is planted. The attachment is highly spoken of by those who have used it. I presume a disk planter having double disk on each side could be made to do similar work. What we want is a deep-seated root system and some method of furrowing is the only practical way of securing it.—ED.]

A Good Brush Rake. — For the rake head take a piece of 4x4 about 8 or 10 feet long. Get teeth made of ⅝-inch steel a foot long, bore holes 6 inches apart through the head and drive them through. In centre of rake head fasten a board 1x10 and 5 feet long, to ride on. When you wish to dump it step off the board and it will dump itself.
Kingsburg, Cal. W. H. SEAWARD.



Why Horses Should be Clipped.—It is a positive shame to use a horse hard when he has on his long, heavy coat. Kept under artificial conditions, he has not a chance in the world to comply with the demands of nature, as the wild horses do, and often he is worked so hard that he sweats freely and then stands all night wet to the very skin, using up to dry his hair all the heat that should be going to recuperate his tired body. In this way he loses strength steadily, whereas, if the clippers should be run over him, he would dry off in 20 minutes and then stand warm and comfortable all night. Just think how it would feel to lie down on your bed with clothes wringing wet with gummy sweat. It is not likely you would be very comfortable. Every up-to-date stable is equipped with a clipping machine. When speaking of clipping horse, it reminds one of the great improvements going on in this line. Probably one of the greatest clipping machines ever invented is the 1902 Chicago Clipper, which has practically revolutionized the horse clipping business in this country. It is very simple in design and is made on the same principle as the chainless bicycles. Gears are substituted for belts, thus doing away with the great amount of slippage which was always such a source of trouble with the old style machines. No experience is necessary to operate this clipper. The price of the clipper, $10.75, brings it within reach of every stable owner, and there should be no stable in the country without one of these most useful machines. It is now for sale in all the principal countries, and is everywhere looked upon as the greatest friend to the horse and horse owners.

Experience with the Disk Plow.—During the driest part of last fall we had some very dry, hard land to break for wheat, and we could not wait for rain, on account of the necessity of getting the land plowed as early as possible. We undertook to break with a 3-horse mould-board turning plow, but failed, a new cast point lasting but half a day. Hearing of the disk plow we ordered one, and it was far beyond our expectations. Our plow is a 3-horse, single disk, weighing about 600 pounds. It both plowed and pulverized this dry, hard ground, turning under weeds almost as high as the horses' backs and all kinds of trash without weed hook or drag chain. We plowed about 17 acres of this hard ground without sharpening the disk, but it would have done better if sharpened. There were patches of what we call Virginia creeper, with large roots, also a few persimmon sprouts, which the plow cut off nicely. It will not turn sod or wet ground, but any ground that is dry enough to work, it will plow; we think it cannot get too dry. Our land is heavy bottom. The depth of furrow is regulated by levers, which also adapt the plow to hillside, by raising the lower and dropping the upper side of plow.
Schooner Point, Ind. ELMER EAST.

Setting Tires with Paint.—It is the common practice with farmers to take their wagon wheels to the smith when the tires get loose. Unless the smith is experienced in setting tires, he is apt to dish the wheel too much. I write from experience. You can set tires yourself, with paint. Get some boiled linseed oil, thicken with Venetian red, not too thick. Wash the wheels clean and be sure to swell the wood up until the tire is tight. Let the wheel dry a very short time so the paint will penetrate the rim. Give it two or more coats and let stand till this paint is dry. Make paint a little thicker for next coat, and when wheel is thoroughly dry it is ready for use. I have done this many times, and saved money, also saved the wheel from being spoiled by too much dish. Neglect in the care of wagon wheels will be sure to cause loss to the owner.
Bedford, O. C. W. KELLOGG.

New Wheel for the Cultivator.—The gauge wheel on the various makes of the one-horse cultivator is defective in that it soon cuts out with grit getting into the hub bearing. I have never had one that did not wear out in one season, or become so loose that the implement could not be guided satisfactorily. I am a fair mechanic and can generally make things go as long as most people, but that wheel business disgusted me so that I decided to try a wooden one, and was agreeably surprised to find it outwore the iron one "out of sight." First, get a new iron bolt-pin made (the one on which the wheel turns). Now cut out from a piece of 1¼-inch oak a wheel same size as the iron one; on one side nail a block 1¼ inches thick, to give greater length of bearing. Bore hole through centre of both large enough for wheel to barely turn easily on pin. With 3-penny nails fasten a piece of hoop iron around wheel for a tire. Ours has run one season and is in fine condition now. It cost only half an hour's work. I have not tried how it will stand exposure, as my implements are never left out. In moving these cultivators from one point to another turn them over with teeth up, and you can roll them like a wheelbarrow. H. J. HORNER.
Horners, Va.

Convenience of Owning Grain Drill.—Last year we were undecided as to whether to buy a grain drill or not, but finally bought a "Farmer's Favorite" drill and used it to drill 12 acres. A field plowed for corn was too wet to put in, and on the first of August, in the afternoon, it was reasonably dry. I worked it up and after 6 o'clock put in the 1½ acres of buckwheat. It rained that night very hard. Had I been obliged to go and hire a neighbor to put it in, I could not have got him before morning and then it would have been too wet again. It did not come off dry again till the middle of August, and then it would have been too late. The buckwheat grew rapidly and as it was a late fall, got ripe and made a good crop. Had I been obliged to hire the money it would have been more profitable than hiring my drilling done. MARTIN STIMSON.
Eden Centre, N. Y.

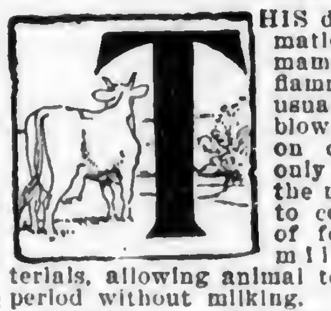
Two Tools in One.—Some farmers object to using a tool for a purpose for which it was not manufactured. While it may wear tools out some sooner to use them for two or more purposes when they were made for but one, such a double use saves for me first cost, housing, interest and repair bills. Now I have in mind the weeder and the wheel horse rake. You would not think of trying to rake hay with a weeder, but you can weed with a good wheel horse rake, and ride besides.
Wellsboro, Pa. ELLERY E. CALLAHAN.

$33.00 to the Pacific Coast
Via the Chicago & North-Western R'y from Chicago daily Feb. 15 to April 30. Low rates from Chicago to points in Colorado, Utah, Oregon, Washington and California. Pullman tourist sleeping cars to San Francisco, Los Angeles and Portland, daily, double berth only $6.00 Personally conducted excursions. Choice of routes. Address W. A. Cox, 601 Chestnut Street, Philadelphia, Pa.

Some Garden Implements. — We all know that there are many farmers who never have a garden at all. Then there are others who try, but the weeds steal a march on them and soon gain full control of the garden. Now I have an Iron Age wheel hoe, and would not try to get along without it. It has two wheels and is so arranged that you can have one wheel for different things. There are two plows, two rakes, two hoes, four cultivator teeth, and it takes but a moment to change from one to the other. You can keep this tool in the woodshed and when you have a spare moment, take it and you will be surprised how much ground you will get over in a few minutes. Have had mine eight years and it has never been out of doors but one night. It is still as good as new. I paid $6 for it.
Northfield, O. MRS. A. L. RITCHIE.

MAMMITIS OR GARGET.

Symptoms and Treatment of the Disease.



THIS disease is an inflammation of the udder or mammary gland. Inflammation of the udder usually results from blows or injury or lying on cold ground; from only partially taking the milk; from exposure to cold; sudden change of food, overfeeding of milk producing materials, allowing animal to go for too long a period without milking.

Symptoms. — In severe case the disease comes on with a chill and swelling of the udder, which is hot and painful and hard to the touch. The breathing is increased and the temperature of the body is raised and the animal evinces great pain.

Treatment. — In severe cases a physic should be given at once unless the bowels are already quite active. A pound of Epsom salts in a half gallon of warm water should be given as a drench. The drench should be administered slowly.

If there is much pain and the temperature runs high, ounce doses of sweet spirits of nitre with fifteen drops of tincture of aconite root should be given every four hours until the temperature is reduced. The udder should be bathed frequently with warm water and all the milk possible drawn at least three times a day. The udder should also be gently hand rubbed.

Support to the udder by a wide bandage passing under the udder and fastened up over the back will also be of great advantage. Holes should be made in the bandage for the protrusion of the teats. An ointment made of a dram of solid extract of belladonna and a dram of gum camphor rubbed up in two ounces of vaseline gives excellent results in allaying pain and inflammation.

Throughout the treatment of garget or mammitis tonic doses of Dr. Hess' Stock Food should be given. The amount given is small—one to two tablespoonfuls—it tones the vital organs and establishes good health.

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The insides of babes-in-arms and little children are very delicate and tender. Mothers must not be reckless in the use of physics. There is only one gentle, perfect, safe medicine for babies:

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"I found Cascarets, in the case of my baby who is not very strong, the very best medicine I ever used. They do just what you recommend."
—Mrs. S. M. Chapman, Stephens Mills, N.Y.

"I have become a firm believer in the efficacy of Cascarets. Even my baby boy likes them."—Mrs. Lida Cermak, Jersey City.

"I think Cascarets splendid. They have benefited me greatly. My baby was afflicted with croup, and Cascarets afforded instant relief."—Mrs. Ella Ziegler, Delta, Ohio.

"I tried Cascarets on a small child and find they were fine, very thorough in operation, and no trouble in giving, as there often is in dosing infants."—Elizabeth R. G. Myers, M. D., Turner, Orange Co., N. Y.

"Our baby was sick and we were advised to try Cascarets. He was entirely cured. We cannot say too much in praise of Cascarets."—Mrs. Mollie Bowman, Metropolis, Ill.

"Cascarets are indispensable for young children and always bring best results."
—Henry Joynt, P. M., Wesley, S. D.

"Cascarets work easy and without pain. I have given them to my babies with splendid results."
—Mrs. K. Bettag, St. Louis, Mo.

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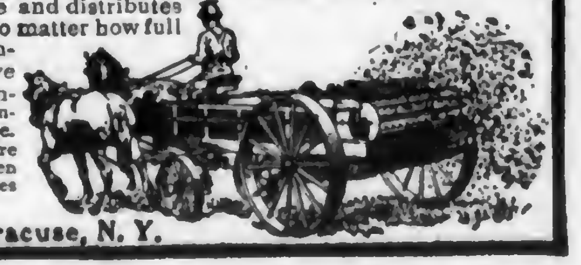

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Mistakes, Failures and Successes.

In this department we publish the Mistakes, Failures and Successes of our subscribers. They are equaly instructive and necessary, pointing the way to success. Subscribers are cordially invited to send accounts of efforts they have made which resulted in failure, as well as those which proved successful. Give in a few words your experience of anything connected with farm or household work. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Only helpful communications of value to P. F. readers will be accepted. The head of the column will be considered the position of honor each week. Send all communications to Geo. T Pettit, Oneida, Kan.

Renters' Mistake.—In travelling through our East Tennessee country, one is struck with the scarcity of orchards and fruit trees in general. Sad to say, the majority of our people don't own their own homes, but rent. They reason in this way: "It will do us no good to put out fruit, for the chances are we shall have to move in the fall, and someone else would reap the fruits of our labor. We will just work along the best we can with as little trouble as possible." The few growing fruit trees are neglected, the peach seeds are thrown out to be eaten by stray hogs, and any little tree that may chance to come up is destroyed by the children or cow. Not even a strawberry bed is to be found in one garden out of twenty. The result is, the few fruit trees and orchards don't supply enough fruit for all. Many families have none except what they steal or beg. How much better it would be if all renters would adopt the plan of putting out all the fruit they can wherever they go. By so doing it would not be long until there would be an abundance of fruit for everyone, and rich and poor would be greatly blessed. Blessings on him that plants a tree and cares for it while it is weak, and he himself is young and strong; for when he is old it will repay his toil in nice ripe fruit and shield his house from the raging storm.

Tate Spring, Tenn. R. C. CAMPER.

Late Tomatoes.—For two years I have almost made a failure raising tomatoes by setting them too late for the seasons. Owing to dry, hot weather they could not set on till late in the summer and did not ripen until after frost. But they were fine then and I got good prices for them. I once did the same with cabbage on sandy land; when they should have been ready for market, they were just beginning to head, and each hot day wilted them, and each morning they looked fine, for four months. Made heads in November, after being set six months. So I conclude, as I heard an old-timer say, "If you plant here in the spring, you are almost sure of a fair crop." J. M. TAYLOR.

Belle Plaine, Kan.

To Free Sitting Hens of Lice.—Having tried a number of so-called insect powders and lice killers without satisfactory results on sitting hens, I thought to try sulphur. This I put in a tin pepper box and put in the hen house where it would be handy. A can with finely perforated top will do. Took the hen gently by the feet and sprinkled sulphur thoroughly among her feathers, replaced her on the nest and gave her eggs. Sprinkled sulphur in the nest over eggs and around box. Four or five days before hatching I examine biddy; should there be any lice on her I apply sulphur as before, and after this there are no pesky lice to attack the chicks as soon as they pip the shell. One application is usually enough. It does not prevent the eggs from hatching and has no bad effect on hen or chicks. Burn the nest under roost as soon as chicks are removed, thus fumigating the house. W. L. TULL.

Walker, Mo.

Rape Culture.—In answer to Mr. Skelton's query in this department, on rape, I would advise pasturing the rape all season, and if he wanted some for late feeding I would advise sowing another piece. He might grow a bean or early potato crop and then sow the ground to rape for late feeding. Do not sow until the ground has become warm enough to quickly germinate the seed, as it comes up better and grows more rapidly. Sow Dwarf Essex rape, 2½ to 3 pounds if drilled, or 4 to 4½ if sowed broadcast. Rape will grow well on any land that will grow a good crop of corn. The ground should be rich. The lot should be divided into two parts; sow one piece a little later than the other; feed one piece while the other is starting and then change. The rape should not be turned into until 12 or 15 inches high. Feed stock before turning in, at first, so as to prevent bloat or derangement of the digestive organs; after that there is no danger. Rape has a nutritive ration of 1:2.9 and is therefore a valuable food for growing, fattening animals.

Davis, Mich. BURTON SHINGLETON.

A Trial of Cow Peas.—Cow peas are not cultivated in our county very extensively, but we concluded to try them last year. We were advised by the P. F. to try Black peas. We purchased five bushels each of Whippoorwill and Black, and planted about 20th of June. I think we made mistakes, failures and successes in even this small crop. We should have sown the Blacks about the tenth of June, as they were held back by drought and did not mature many seeds before frost, which came September 12th. We had about two acres of Blacks sown broadcast for hay, which we did not consider ripe enough, and made the mistake of allowing them to stand until the tops of vines were blackened by frost. The bottom part did not seem to be very much damaged, so we mowed a part of it, and we thought it was not cured enough after two days sun, so let it lie a day longer and shocked it up to finish curing. It began raining that night and rained for three weeks, so, of course, the hay was almost totally ruined; in fact, all blackened, but we stacked it and the cows have eaten it this winter. The mistake we made was in not hauling it in after two days sun. The Whippoorwill hay was cured nicely, although it got rained on some and, of course is not as good as it would have been. We had seed picked by boys to be hulled with hand huller but do not know how they will turn out as we have not received our huller. Altogether, I consider cow peas a success and shall try to plant 40 or 50 acres this year.

Dover, Tenn. DOUGLAS COPPEDGE.

Failure Through Greed. — Having a small plat of ground rented, and expecting last season's crop to be the last one I should get from that plat, I carefully prepared the soil and sowed with an unsparing hand. The seed was bought of a reliable Philadelphia seedsman. All seeds grew really better than I had expected. I sowed a nice lot of parsnips, and when cultivating I pulled a few out, when I realized that was to be my last chance to get anything from that soil, my greed for gain overbalanced my common sense. The harvest proved it. The parsnips were so close in the rows that they almost formed a solid mass of roots, and it was only a chance one, that happened to not be crowded, that was large enough for table use at all. This I call a fair lesson from nature. I am not only out the crop of parsnips, but I am out the money for the seed, all the labor of preparing and cultivating the soil, and the rent and manure for that particular plat of ground. My greed caused my failure. A. H. STEVENS.

Altoona, Pa.

To Keep Pork.—A very good and cheap way to cure pork, is to take meat as soon as cold and rub it over with dry salt, leaving just what salt will stick to the surface, then pack closely in barrels, with the skin down. In four days make a cold salt brine that will carry an egg; pour this over the meat until it is well covered, then take a clean stone or heavy weight that will hold it down under the brine. When it has laid in this about six weeks, take up and hang in rows and smoke with hickory wood. By this time it will be a beautiful brown color. Now take pulverized borax and rub every piece thoroughly with this, being careful to rub well into rough places and around bones. Hang in a dry, cool granary or meat closet, which can be made by tacking screen-door netting over a strong frame and using a screen door for one side; a closet 5 feet long, 4 feet wide and 6 feet high, with hooks screwed in the ceiling, will easily hold the meat from six or eight large hogs. The closet can be set in some out house or granary, and meat cured and preserved in this way will keep good, fresh and clean until the next butchering time arrives. The above method has been used with success for many years. This method does away with the use of unhealthful saltpetre and similar drugs.

Pulaski, Pa. JOHN W. MITCHELL.

Gooseberries.—The gooseberry delights in a deep, exceedingly rich soil, in partial shade and in thorough mulching. Who, that is acquainted with its different uses and knows the delights of a gooseberry pie, would ever again willingly be without this most healthful of fruits? Currants and gooseberries have never received the attention they deserve. The markets are hardly ever fully supplied. Each year the demand is greater, and no one will make a mistake by planting quite liberally of these most healthful, invigorating fruits. L. E. KERR.

Hurricane, Ark.

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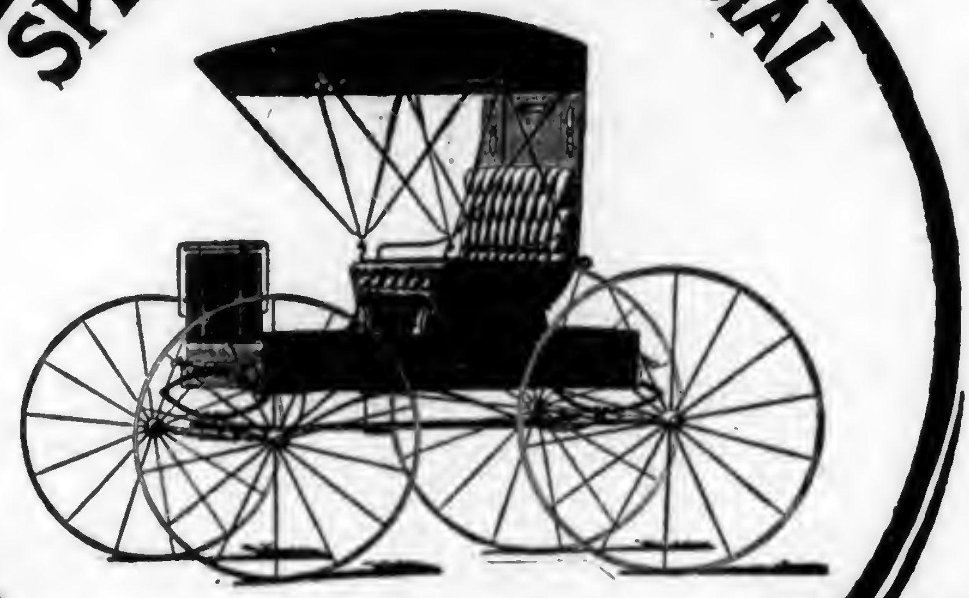

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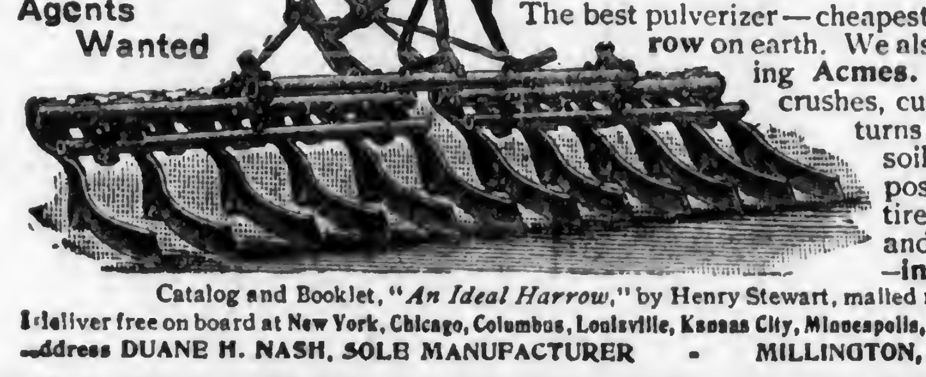

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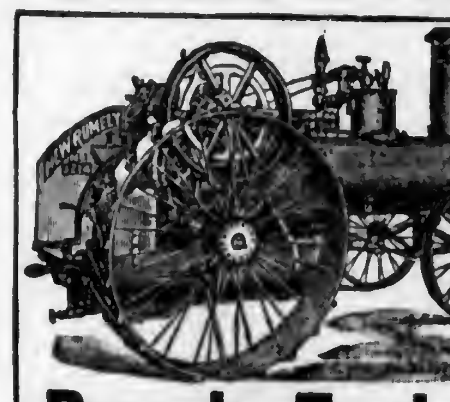

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Located in Carroll Co., 3 miles from Westminster and 25 miles from Baltimore. We have good schools and plenty of churches. Western Maryland College is situated in Westminster. The first free rural mail delivery route in the U. S. started in Westminster. We have had unusually warm weather and a good deal of rain. Wheat and grass are looking fine. A number of our farmers ship milk to Baltimore on the Western Maryland R. R.; it brings from 13 to 16 cents per gallon; freight, 2 cents per gallon. Owing to the dry season last year, hay, fodder and all dry feed is scarce and high. Hay, from $13 to $18 per ton; butter, 20 to 25c. per lb.; eggs, 12c. per doz.
E. J. READ.
Carrollton, Md., April 8, 1903.

Located in pineapple belt, on eastern coast of Florida, 3 miles south of Ft. Pierce. Pineapple farming and fishing are the principal industries. Some trucking carried on; beans have netted fair prices, nearly $2 per crate, but crop has been short on account of insects. Pineapple crop is larger than for years past, owing to a very favorable season. Weather has been mild with plenty of rain. Pines will move early, about May 1st. Wages, $1.50 per day; butter, 30c. per lb.; eggs, 25c. per doz.; corn, $1.25; wheat, $1.50 per cwt.; oats, $2.10 per 125 lbs.; pineapples netting $3.25 per crate of 24. Land high, owing to prosperity and wealthy tourists buying for winter residences. R. L. GOODWIN.
Fort Pierce, Fla., April 6, 1903.

Located 18 miles north of Houston, Texas. Land level, sandy prairie, with timber along creeks. Farming is very backward this spring, on account of the extremely wet weather. Irish potatoes will be a failure, and it is getting late for planting corn, as most farmers here plant corn from February 20th to March 10th. Cotton is almost a thing of the past, on account of the boll weevil. Some farmers are beginning to experiment with growing rice by obtaining water from deep wells. Prices: Corn, 60c.; sweet potatoes, 85c. per bu.; chickens, $4.25; eggs, 15c. per doz.; butter, 25c. per lb.; horses, $30 to $75; cows, $25 to $60 each; land, $8 to $25 per acre, according to improvements. A. H. BEAZLEY.
Westfield, Texas, April 3, 1903.

Located 2 miles north of Belle Plaine, 22 miles south of Wichita, 17 miles northeast of Wellington, 5 miles south of Mulvane, in the Arkansas Valley. Wheat looks well. Wheat, rye, oats, corn, alfalfa, apples, peaches, pears and all vegetables do well here. Winter mild but a late spring; cold and rainy weather in March and not much farming done yet. We have all the conveniences of modern civilization. Four railroads, creaming stations, free rural delivery, telephones, electric lights in cities. Corn, 35c.; oats, 30c.; wheat, 60c.; potatoes, 60c. per bu.; horses, $50 to $150; cows, $40 each; farm hands, $15 to $20 per month; girls, $2 to $3 per week; land worth $15 to $75 per acre. J. M. TAYLOR.
Belle Plaine, Kan., April 4, 1903.

Located 20 miles west of Waldron, in Scott Co., and 5 miles east of the Choctaw line, on the A. W. R. R. The weather has been extremely wet since November. It has rained so constantly that farmers are very badly behind with their spring work. Very little small grain sown; very little land plowed. Peaches all killed in February. Prices: Corn, 65 to 75c.; oats, 60c.; peas, $1; potatoes, $1 per bu.; eggs, 10c. per doz.; butter, 20c. per lb.; milch cows, $20 to $30; horses, $50 to $125 each. No demand for young cattle. H. C. BETHEL.
Bates, Ark., April 4, 1903.

Located 6 miles from Burlington, the county seat of Boone Co.; splendid locality for farming, wheat, corn, potatoes and tobacco being the principal crops. Truck farming and poultry raising are also receiving a great deal of attention. Heavy rains throughout the county during February and March, have delayed the farmers a great deal with their spring work. Wheat looking fine. Prices: Corn, 50c.; wheat, 70c. per bu.; hogs, 7¼c.; butter, 20c. per lb.; eggs, 20c. per doz.; chickens, 10c. per lb.; horses in demand at $50 to $125 each; land, from $35 to $50 per acre. T. L. WILSON.
Union, Ky., April 6, 1903.

Weather cool for season. Oats sown; winter wheat in splendid condition; garden making begun. We are in newly settled country, 40 miles from railroad, but prospects are good for roads closer. We raise broom corn, cotton, castor beans, sweet potatoes, wheat, oats, corn, Kaffir corn, all kinds of garden stuff and fruits. Land is mostly rolling prairie with plenty of water and timber for ordinary use. Prices are: Wheat, 56c.; corn, 40c. at R. R.; 30c. at home, per bu.; cotton, $2.50 per cwt., in seed; cows, $25 to $35; mules, $50 to $150 each; hogs, 5 to 6c. per lb.; apples, $1.25; potatoes, $1 to $1.25 per bu.; butter, 10c. per lb.; eggs, 10c. per doz. We had 18 inches of snow on a level, in February. P. D. MCKINZIE.
Bloomfield, Okla., April 2, 1903.

Situated in Franklin Co., 15 miles east from Rocky Mount, the county seat, and within 2½ miles of three good rolling mills. Farmers behind on account of the wet winter. Seeding oats is the general business on the farm at this writing: wheat looking well for 1903; the 1902 crop a failure. Public roads being worked by machinery; bridges built; have rural free delivery of mail. Principal crops are corn, wheat, oats, tobacco, clover and peas for hay. Prices: Corn, 60c.; wheat, $1; oats, 50c. per bu.; hay, $15 to $20 per ton; bacon, 15c.; lard, 12½c.; hogs, 5 to 8c. per lb. and scarce; milch cows, $20 to $30 each; veal, 7 to 9c. per lb.; hens, $5; eggs, 15c. per doz.; butter, 20c. per lb.; horses, $75 to $150 each; mules higher. Farm labor scarce; wages good. Best wishes to the P. F. OTHO E. SOUTHALL.
Scruggs, Va., April 6, 1903.

Winter is over after quite a severe season. Cattle, as a rule, are poor, perhaps from poor fodder and immature corn stalks, also poor quality of hay. Cattle feeding a very poor investment, some losing up in the thousands of dollars. Land dealings are quite "dead" now, perhaps high interest on money being the cause. Land, from $45 to $90 per acre; corn, 35c.; oats, 30c.; barley, 35c.; wheat, 65c. per bu.; hogs, $7; cattle, $4 and up per cwt. The P. F. a welcome weekly visitor, and its suggestions useful and practical. Long may it live for the benefit of agriculture. E. B. KIRKEBURG.
R 3, Eagle Grove, Ia., March 28, 1903.

We live 11 miles northwest of Statesville, N. C. The land is clay loam and is very productive under good management. The principal crops are corn, wheat and cotton. Farmers generally try to raise their own supplies. All kinds of fruits do well. Most farmers raise their own meat, and the raising of pigs to supply the demand is quite an industry now. The favorite breed is Poland-China. Wheat is worth $1; corn, 60c. per bu.; cotton, 9⅜c.; meat, 12½ to 15c.; butter, 15 to 20c. per lb.; eggs, 12c. per doz.; horses, $40 to $150 each. The weather is very unfavorable for farm work. We are all behind with work. Wheat is looking well. The prospects for a fine crop were never better. This section is a fine wheat country.
C. S. MILLSAPS.
R. 2, Statesville, N. C., April 6, 1903.

Located 10 miles from Portland, which is the county seat of Jay. The land is hilly and better adapted to stock raising than farming. Not much farming done yet. Ground in bad condition this spring. Wheat looks well, but needs rain. Corn, oats and hay the principal crops. Prospects good for a large fruit crop this year. Prices at present: Corn, 52c. per cwt.; oats, 30c.; wheat, 64c.; rye, 43c.; clover seed, $6.25 per bu.; hogs, 5 to 7c.; sheep, 2 to 3c. per lb.; cows, $25 to $40 each; horses bring good prices; hay, timothy, $10; clover, $5 per ton; eggs, 10c. per doz.; butter, 16c.; old hens, 9c.; turkeys, 9c. per lb. Hired hands, $1 to $1.25 per day; $16 to $20 per month.
PERRY STEPHENS.
Red Key, Ind., April 7, 1902.

Situated in northeast part of Clarion Co. March was one of the easiest months on the grain within the memory of the oldest citizen. The fall grain all looks fine and it and the grass are growing very fast. A great deal of plowing is done; in other years at this time the farmers are usually just starting to plow. Local prices are as follows: Wheat, 80c.; rye, 65c.; oats, 50c.; corn, ears, 40c.; buckwheat, 50 to 60c.; potatoes, 75 to 80c.; apples, 50c. per bu.; butter, 25c. per lb.; eggs, 12c. per doz.; chickens, 10c. per lb., live; pigs, $4 to $5 per pair and very scarce. Schools are closing. Roads have been very bad but are getting better now. Success to the P. F.
S. A. HINDMAN.
Fisher, Pa., April 8, 1903.

Living in suburb of the beautiful city of Mt. Pleasant, county seat of Isabella Co.; 4,500 inhabitants are healthy and prosperous. My occupation is gardening. We have a most desirable farming country around us; nearly every kind of crop raised; the main crop will be sugar beets this season. A very large sugar beet factory under course of erection. Our markets are: Wheat, 75c.; corn, 60c.; potatoes, 40c. per bu.; eggs, 12c. per doz.; butter, 20c. per lb.; horses, $50 to $150; cows, $30 to $50 per head. We have had a fine winter; not much snow and very little severe cold weather. The roads have been quite muddy for a couple of weeks, but are in good condition at this writing.
MRS. THOMAS HILLOCK.
Mt. Pleasant, Mich., April 4, 1903.

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Cure Them All

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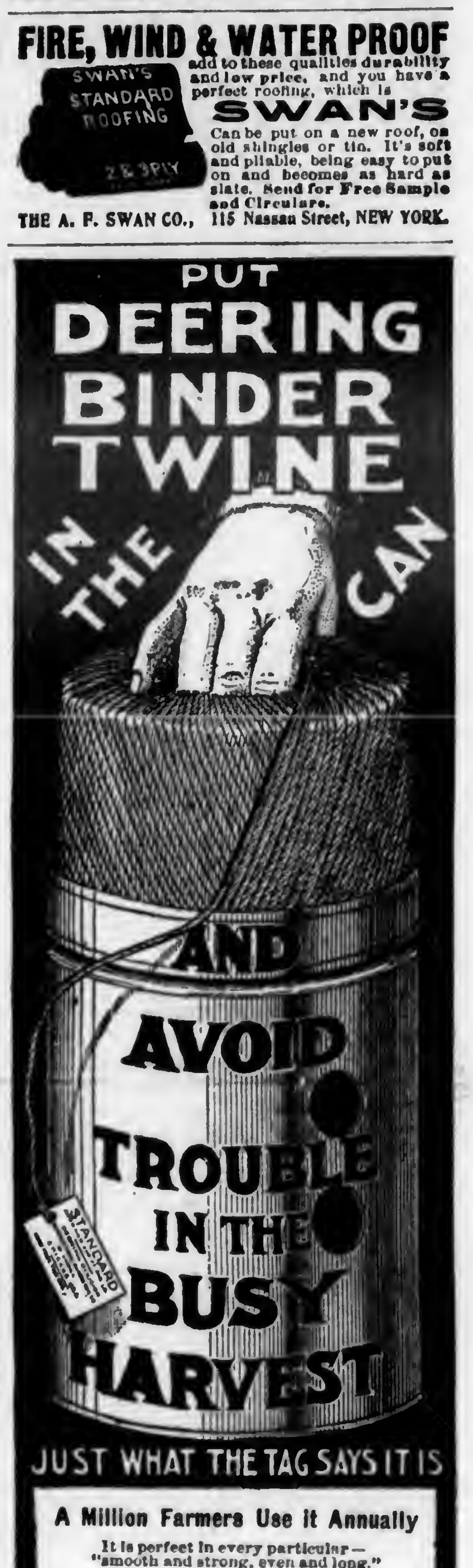

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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

The Story of a City Family Succeeding on a Run-Down Farm.

Letters are frequently received from people living in the city, and who usually have but little money, a thousand dollars or so, asking if they can buy a farm and succeed on it. I have a report from a family of this kind that moved onto a farm in Maine some years ago. It will show how success will come to others, who desire to get out of town and do as they please on a farm. It is a unique letter, indeed, for it tells the whole story, the bitter along with the sweet. It will keep some from moving into the country, perhaps, by showing them how they must work usually to succeed. But this will do good by keeping any that haven't no end of push from putting their hands to the plow. I was not asked to withhold the name, but was to not tell of some of the hardest trials. But it is just these that will give value to the letter, so the name is left out although they need not be ashamed of any of it. It does them great credit. Well, these friends bought 240 acres of run-down land. On it was an old barn, 48x100 feet, a shed 40x60, the wing of a house 18x36, but so low one could not stand up in the chambers. They began on the land first, wisely, selecting the best of it and hauling dressing two and a half miles to enrich it. They now have 100 acres cleared and improved so every one will bring a fair crop. This has taken time, of course. A new house has been built, 38x42, and the old wing raised up so one can walk around upstairs. They paid out $30 in money for this house, and that was to the mason. They got some materials from their own woods, and sold more to pay saw bill and for soft wood lumber, etc. You may think this a pretty large house, but these friends have an old-fashioned family, nine children, and two old people staying with them. The oldest boy is 17. The barn has been raised, a cellar put under it, a silo in one end, and a manure shed along its entire length. Little by little the farm and buildings have been improved from year to year. There is still a debt of $650, but the farm is getting more productive, so a few years more will wipe this out and add other needed improvements. They had one cow and a calf, 15 sheep and a pair of horses worth $30, when they began, and there were no fences. Now they have good wire fences, 22 head of cows (some choice pure breds), 5 breeding sows and pure bred male, 3 fine colts and a pair of $300 horses, etc. The wife says that since the writer's talk at their place some years ago they have got a driving horse, but no decent carriage yet. That is one of the things to come when they can spare the money to pay down for it. Just read what this faithful little woman says: "Neither husband nor I have had $50 worth of clothing since we came onto the farm, but we pay as we go and count our friends among the best in town. Time has been when you could count all the horses' ribs, but you can't now. John and I have worked in the field more days than I care to tell of, on salt and potatoes, with occasionally beans and brown bread. I have driven a pair of horses, mowing, until they seemed to me to have but one leg instead of four. We can laugh over these things now, because we are on our feet at last and can see our way out." How this takes the writer back to old times. Yes, he has bought poor, old, cheap horses because he could not pay for anything better, and he and they had to live almost on a salt and potato diet. And his wife and he have worked in the field many a day until they could scarcely see any better than this Maine friend. We have not had to work so of late years, of course, nor does the Maine woman now. The boys have got big enough to help. Again, the lady says: "We were both green at farming, coming from the city, but by working as indicated above, and going without what we could not afford, we have got where we can see our way to comfort and more moderate work. John uses no tobacco or liquor, and has no time to bottom chairs, or hold down boxes in the stores, and is not ashamed of patches. The P. F. is our only farm paper, and we read every word of it. We have much more to do, but we have a home now. John said last summer, 'those roses, our roses, are worth all we paid for the farm.'" Oh, the delight of owning some land and a home, that no one can turn you off from, where you have paying work that no one can take from you, and fruit and flowers, and pure air and pure water, and room to spread out and shout if you want to. No wonder these friends are happy.

But the very best is yet to come. I suppose it was the "Health Hints" that drew out this interesting and instructive letter. The lady says: "Some 30 years ago I was given up to die. I was only 19 years old, and wanted to live. My heart, kidneys, liver and lungs were seriously affected. There was no hope for me, they said. I was shut up close for fear a little fresh air might get to me and hasten my departure. I had just life enough left to rebel at last and take things in my own hands. I opened the windows and went out of doors, having to crawl at first, my limbs were so swollen. Once there I felt stronger and dug in the earth, or anything else I pleased. I have never taken one teaspoonful of patent medicine. Well, now, at 49, I weigh 125 pounds, can beat my girls at physical culture exercises, my boys take mother around with them, I have few wrinkles, my cheeks are red, my back straight, and our doctor told me last spring he would starve if all women were as healthy as I am." Oh, how valuable this report might be to any ailing sisters, cooped up in the house and slowly but surely fading away. The first thing to do is just what our good friend tells of—rebel and determine to live anyway. Next, take matters in your own hands and get fresh air and out on mother earth as soon as possible, and into the sunshine, and get to doing something. Almost invariably the result may be as good health as was secured in the case above given. Oh, that I could take every ailing brother or sister by the hand and enthuse them with what nature will do for them, if they give her a chance. But it is so important that you be enthused, that the spirit be thoroughly aroused, that you make up your mind that you will get well anyway and hold right to it, allowing no doubt whatever to creep in. Surely this good woman would have left the world on the verge of young womanhood, that fine family would never have been raised, the great success on the farm never achieved, but for the determined spirit that led her to fight successfully and sensibly for life and health. "John uses no tobacco or liquor." I wish every boy, or young man, who reads the P. F. would let me advise him on this point. You need money to get started for yourself; why waste any in habits that can do you no good, that will do you real harm, that at the best will benumb your faculties, at the worst lead you to a drunkard's grave? Yes, the use of tobacco will often, in time, call for something stronger, and many cannot drink moderately and stop there, and you know the result. All honor to "John." I would like to publish his full name. He has not wasted any money that wife and children needed. He has not made his mouth filthy and his breath disgusting to any refined lady and to many men. Faithful, honest, hard-working "John." His wife cannot ride in a covered carriage as yet, but "John's" conscience is clear. He hasn't spent the price of one for cigars and tobacco, nor a drink when he went to town. And "John" goes to town on business and does it and comes home and goes to work again. "John" is a citizen old Maine may well be proud of. More such Johns can leave the city to advantage and build up homes in the country. And this calls to mind another "John," John Gould, of Ohio. I had him in my company of Institute workers last winter. This John married another nice woman, yes, a college graduate, and brought her onto his "clay farm." John's native man lives, and perhaps his talented wife's influence, led him to determine at once that he would quit smoking and spend the price of two cigars a day in purchasing good books. As a result, he now has one of, if not the finest, libraries in Portage county, and his mouth is clean and his breath pure. All honor to this John. My young friends, if you pattern after these Johns you will never be sorry. When you are 50 years old I shall be gone, but you will say I advised you rightly. I want no better monument.

Trouble with Oil Stove.—How Easily Remedied.—During the past winter the P. F. has received several letters complaining about the bad smell or gas that came from oil stoves. Some have wicks and some are wickless. Some were bought of the P. F., some were not. Here is a fair sample, from E. G. Richmond and wife, Angola, Ind.: "We like our oil stove, with one or two exceptions, better than anything else we ever had to cook with. But those exceptions are enough so we will never have another in the house. It smells badly and emits a gas that makes one's eyes smart as though they had been slicing raw onions. Directions said it would not give out a bad odor if kept clean. The cleaner we keep it the worse it stinks." Another friend writes that he doesn't see how we can endure such a stinking thing in the house, and then recommend it to others. Well, this looks pretty black, doesn't it; but the writer learned years ago never to bet on the other follow's game. If you do you may get beaten. He usually knows what he is about. We have used oil stoves for cooking and baking, summers, for 19 years now. We have used one summer and winter ever since the blue flame process was invented. Does anyone suppose for a moment the writer would have such a smoking, gas emitting concern in the house as is spoken of above? Not much. Does anyone suppose any manufacturer would put his money into the producing of a stove that would fill the house with an unendurable stench? Certainly not, for loss must come to him eventually. People will not use a stove that is a nuisance. In all these years we have had no trouble with any bad smell from our stoves, as a rule, until this spring. All we did to prevent was to buy good oil, the best on the market, and keep stoves clean, as we would a lamp. Under certain circumstances there is a slight smell. If wind blows out the blaze when stove is burning it will smoke for a little time, unless at once relighted. If chimneys are left down after blaze is turned out the stoves will smoke for two or three minutes when lighted, until the oil that has climbed up on chimneys has burned off. But this is the result of carelessness, and a small matter anyway. Again, carelessness in lighting stove may cause it to emit a bad smell for a minute or so. The wick should be lit quickly in three or four places so it will burn clear around as soon as possible, and then the instant it gets around shut down the chimneys. But I was going to tell you of the one time when we had trouble to speak of. The stove was tink red with while I was gone, putting in wicks, etc., to some extent. When I got home wife said one burner would not burn blue, but red, and smoked so she could not use it. And when she was using another burner I soon discerned gas in the house. I went out there. There was some red blaze. I lit the bad burner and gas and smoke emitted was awful. Now, I had never paid particular attention to the matter before—never had occasion to. I opened the doors to let in fresh air and got a chair and quietly sat down and looked and thought. Thinking told me that the bad smell and gas came from imperfect combustion, surely. The next thing was, what made it imperfect, all of a sudden? I went to looking. It was very easy to see, with the stoves lit, but turned low, that the bottoms of inside chimneys (not the large outside ones—they were all right) did not fit down tightly on the tops of burners. They were a little to one side, thus letting air directly in, instead of compelling it to go through the little holes of tubes. They were not out of place more than one-quarter of an inch, but there was the trouble. Examination showed chimneys were all right, not bent in any way. Therefore the stoves, or burners, must have been moved in the frame. I loosened the nuts and set them right to fit chimneys, in a minute, and that was the end of smoke and bad smell and gas. This was a great deal easier than writing to the maker or sending stove to shop for repairs. A few hours afterwards wife said: "Oh, it is such a relief to have the oil stove all right again." So it is, as she depends on it entirely the year around. It is a blessing indeed during hot weather, and just about as good in winter, if your house is heated in some other way, as ours is. Just scratch a match and the fire is made, and a turn of the fingers and it is out.

10-Cent Trial Subscriptions.—A year ago the Editor of the P. F. made an extraordinary proposition to the subscribers of the P. F. It was to the effect that the P. F. would be sent for the remainder of the year for only 10 cents to anyone who was not a subscriber to the paper, the names of these trial subscribers to be sent by the then present subscribers between May 1st and 10th. We understand that a good many thousand trial subscriptions were thus secured, the major portion of which are now regular subscribers, having renewed the present year. In this number the Editor makes a similar offer. As I understand it, every subscriber is asked to induce as many of his neighbors who do not take the P. F. as he can influence, to send through him 10 cents for a trial trip to January 1st, 1904. Of course, those conversant with the newspaper business know that this will not cover the cost of the postage on the paper. What the Editor and the business management are driving at is to obtain a very large trial subscription list, which, at the end of the year, will crystallize into permanent yearly subscriptions, and thus make up the loss incurred in sending the P. F. every week for seven months for only 10 cents. Their success in last year's effort has resulted in this new offer. The thousands of staunch friends which the P. F. have made ought to add, well I should say, 30,000 or 40,000 new names to the subscription list. And they will if every friend of the P. F. will lend a helping hand. The paper is needed in thousands of farm homes to help the owners in their farm management. The present subscribers are the best medium through which to reach those owners, and so the Editor asks their help.

T. B. Terry.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Sugar Corn and Tomatoes. — E. D. Brown, Easton, Md.—I have a field well seeded in crimson clover which I propose planting in May in sugar corn and tomatoes for the cannery, and in the fall sowing in wheat and grass. Can I use commercial fertilizers with the corn and tomatoes on the clover sod at a profit, and if so what formula and quantity per acre." With sugar corn and tomatoes it will doubtless pay you well to use fertilizers liberally. The clover will probably furnish as much nitrogen as may be needed in an organic form, but it may be well to have a little nitrate of soda and give the plants a good start. We would further suggest, to make a ton of fertilizer for this purpose, that you use 1,400 pounds of acid phosphate, 200 pounds of nitrate of soda and 400 pounds of muriate of potash. Use 500 pounds of this per acre and by so doing it will not only make you a better crop of corn and tomatoes, but will largely aid in getting a stand of grass in the wheat.

Rape for Hogs.—B. E. Mitchell, Mannington, W. Va.—"I have seen a statement in regard to keeping hogs on rape, 40 to three acres. Can I expect to realize half that of feed and pork on my three acres of good, strong ground well manured? Would it pay me to buy more pigs at $3 each 7 to 8 weeks old to turn on the rape. I now have but six about six months old, and have a 3-acre strip long, and narrow, which I could easily divide into three or four lots and sow rape if I could see anywhere near the profit in it as stated." No matter where you saw the statement we do not believe that anyone ever fattened 40 hogs on three acres of rape. It would doubtless keep them in a thriving condition for a time and help in their growth decidedly. Rape is similar to an ordinary rutabaga top, but rather larger in growth, and it has a good feeding value. But there is no need for extravagant statements in regard to it. Rape has its value, but it is not necessary to tell fishy yarns about it. Your lot, divided into several lots, would furnish pasture for quite a number of pigs, but just how many it would keep can only be told by experiment. Then, too, rape sown now will not be ready for the pigs for a good while, and in the meantime if you buy more you will have to provide for them otherwise. Then after the rape comes in use it would be well to change from lot to lot and give it a chance to sprout again. The rape should be sown in rows and cultivated, and being hardy it should be sown as early as the land can be put in good order, though a succession of sowings may be made till last of June. Your climate is probably too cold for it to stand the winter, while in the South the sowing is best made in August and the feeding during the winter. Then if you have the rape you will have to finish the hogs off on corn, for rape will not finish a pig. Your three acres will keep quite a number of pigs in a thriving condition for some time, but it will take more than rape to make pork.

Cow Peas and Alfalfa. — "Johnson" says, "Two years ago I experimentally sowed (Bradford Co., Pa.) sorghum, teosinte, soy beans and cow peas. The only thing that did well was the cow peas planted in rows and cultivated. If the rows had been closer they would have covered the whole ground. On a lower part of the same plat where there were no peas, I sowed alfalfa alone in spring of 1902. It grew, and so did the weeds. The alfalfa seed was from Moscow, Russia. The plat was twice mown over and manured again in the fall. It was limed the year before the seed was sown. This spring will reveal the result. I would like your opinion as to how alfalfa would do on this poor land if at first cow peas are grown and plowed under or harvested and the land given a dose of lime. The land will probably make 25 to 30 bushels of corn per acre. Also have some rich river bottom land, good for 100 bushels of corn per acre; soil not dry, but porous alluvial. River floods have played havoc with it of late, and I have thought that if in sod it would not wash away. Several years ago the frost struck the corn on this before it was all cut. The frosted fodder was cut and fed and cattle seemed to thrive on it. What percentage of loss is there in frosted fodder over that not frozen?" We will be glad to hear from our correspondent after the result with his alfalfa shows, since every experiment with the crop is instructive. In regard to growing cow peas preparatory to sowing alfalfa on your thin upland we have no doubt that it would be a success if you plowed the peas under when ripe and then limed the land and sowed rye on it as a winter cover, to be turned in the spring before putting the land in alfalfa. Treated in this way you will have fewer weeds to contend with, for the peas are a great weed smothering crop. For this purpose we would sow them broadcast at rate of one bushel per acre, and would give them a coat of 300 pounds per acre of acid phosphate mixed with 50 pounds of muriate of potash. This, we believe, would insure a stand of alfalfa. We took up in February just past, a plant of hairy vetch from our garden where garden peas have been grown for generations, and noted the wonderful profusion of tubercles on the roots. Now we are not sure that the same microbe affects the alfalfa, but we believe that scattering soil from an old garden over the piece will help to infect it. We fear that you will not have success with alfalfa on the low ground subject to overflow. We tried it years ago on such land and it will drown out. As to the frosted fodder. If the corn is cut at once after being frosted we have found that silage made of it is just as good as that from the unfrosted plants. We once put some frosted corn into the silo the same day after it was frosted and never could see any difference in it and that cut earlier, and we do not believe there is any difference in the feeding value. Your query about feeding beeves was answered in the Stock Department, April 4th number.

Fertilizer for Cow Peas. — A. H. Washick, Schweizer, Ky.—"How much fertilizer should I use with cow peas on land that will produce about 10 bushels of wheat per acre. Can get fertilizer here containing 10 per cent. phosphoric acid and 4 per cent. potash. Can fertilizer and cow peas be drilled without injury, or would it be better to drill each separately? What is your opinion of Devon cattle?" The mixture you mention will answer very well for the peas if used at the rate of 300 to 400 pounds per acre. It would probably be best to sow the fertilizer after drilling the peas, for if the potash in it is from muriate it may injure the germination in contact with the seed. The Devon cattle are an old, long-horned breed which have been bred for general purpose cattle and give a fair quantity of milk and a fair quantity of beef.

Alfalfa in Indian Territory.—L. E. Edmondson, Muskogee, Ind. Ter.—"Will alfalfa grow in the extreme northern part of the cotton belt? I have a farm here in the Creek Nation, where I want to sow alfalfa. The land slopes to the north and is very rich and well watered." The alfalfa ought to do as well with you as anywhere, if the land is not low and wet, and if the subsoil is mellow and easily penetrated. We would advise you to sow in August or September on well prepared land, and not use less than 20 pounds of seed per acre.

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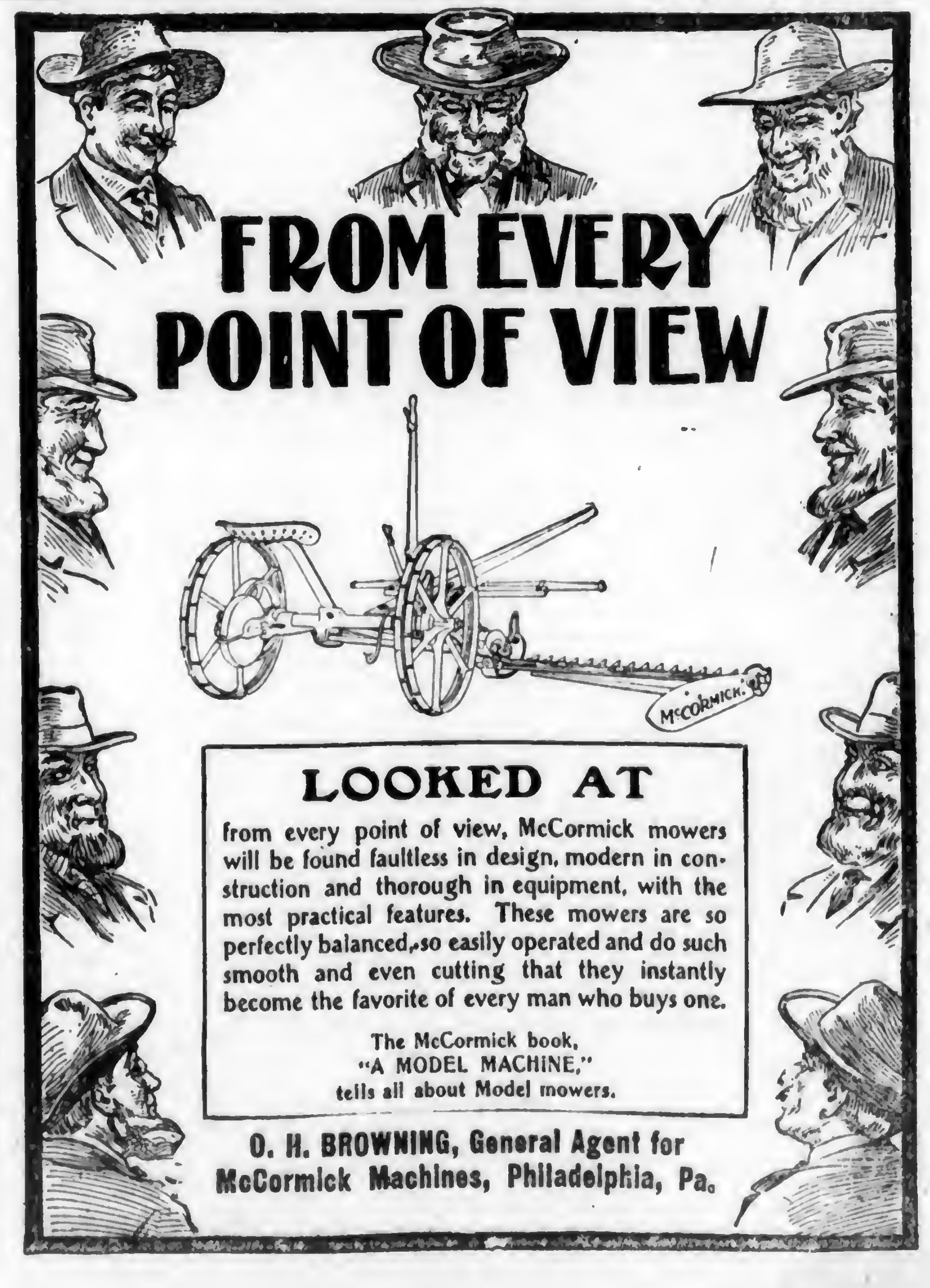
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Inoculation of the Soil.—W. B. Tilghman, Salisbury, Md. — "I have seen somewhere an article on the inoculation of the soil for peas, and would like to know how to proceed. I have some rundown land which I want to put in peas. Had thought of getting soil from an adjacent pea patch and drilling it with phosphate and peas with a wheat drill." It has been found that each of the leading legumes has its own particular microbe. At least one form seems to infest certain classes of legumes. When a legume new to the soil is first planted it seldom succeeds well. Hence the importance of introducing the microbes that live on the plant you wish to grow. The best way to do this is to get soil from a field where the pea has been known to flourish and make nodules, and scatter this thinly over the land. Your plan to drill the soil in with the seed is a very good one.

Sheep, Silage and Alfalfa. — C. W. Smith, Lake Park, Minn.—"I was interested in the reply of Mr. Stewart to J. D. Postles in P. F. of Feb. 14th. I have a farm near Williamsburg, Va., and am going to try to raise sheep there. He says that silage is not fit for sheep, 'for which sour food is entirely inadmissible.' Does he mean to say that all silage is sour? If so, it must be the climate. I have had a great deal of experience in growing corn and filling silos, and we have had no sour silage when the corn is properly matured. Mr. Postles should be able to mature corn every year and have no trouble with sour silage. Will alfalfa grow in the neighborhood of Williamsburg? Mr. Stewart says that alfalfa is a poor hay crop. I have never had any experience in feeding alfalfa, but have always understood that it is one of the best hay crops. Now, Mr. Editor, I would like to hear from others in the South if you think this worth publishing. If Mr. Postles knows nothing of sheep I would advise him to go slow with them." We have never fed silage to any extent to sheep, but we have yet to find an animal on the farm that will not thrive on good, sweet silage. Of course any silage will show an acid reaction as compared with an alkaline one, but the acidity of well cured silage will not be detrimental to any animal we have ever fed it to, even a horse, and we have fed hard worked mules with it with perfect success. It is as easy to make sweet silage in the South as in the North; in fact, easier, for corn is always more completely matured. The essential matters to be observed are to have the silo perfectly tight at sides and bottom and perfectly open above to the air, so that the steam from the heating mass will pass off freely. In such a silo, well matured corn will cure sweet enough for any animal that eats food. Physically and climatically the land around Williamsburg is admirably adapted to alfalfa, with the exception of the low lands where the water table is too near the surface. The uplands there have, as a rule, been badly abused and run down into an unproductive condition, but there is no land more easily restored to its pristine fertility. It will take some fertilization and the growing of cow peas and other legumes to increase the humus content in the soil in order to make a success with alfalfa, for alfalfa will not thrive on land that cow peas will do well on. The pea is the natural restorative crop for that section, and there is nothing better for sheep than pea vine hay. When you get a piece of land up to the production of alfalfa there is no hay crop can equal it for sheep. Read what Mr. Terry says in regard to Mr. J. E. Wing's work with alfalfa in Ohio, where on a 150-acre farm he fattens 1,200 to 1,500 lambs, we believe, every winter, on alfalfa hay. We know Mr. Wing, have traveled with him at Institutes, and have heard him give his experience with alfalfa. We have seen samples of his hay, and if there is any animal that will not thrive on such beautiful green hay we would not want such an animal on the farm. Some say that it is too strong a diuretic for horses, but of this we know nothing as yet, but as we are getting ready to put in several acres of alfalfa the coming fall, we will be able to experiment with it. There are large fields of alfalfa in North Carolina on one of the finest stock farms in the State, and after a number of years experience with it we asked the proprietor how he liked it, and he said that he had never found anything equal to it as a stock food, and as his horses get it and do well we assume that it is all right there, too. Years ago in the early days of the ensilage practice, when the corn was stored in a very immature state and the silage was sour, the condensed milk factories refused the milk and there was some refusal on the part of the milk dealers. But that is all over now, and dairymen everywhere use silage without trouble of any sort, and silage has completely taken the place of roots for feeding stock of all sorts. The former experiments with alfalfa in the East were largely failures because we did not then understand the needs of the crop as we do now. The failure was not the fault of the climate, but of the methods used. Now that its needs are understood the crop is as certain all over the East, North and South, as any other crop when grown on land suited to it. For the regular crop rotation about Williamsburg, Va., there is no forage crop equal to the Southern cow pea.

Manurial Value of Corn Stover. — "E. L. Grosh, Mendon, Ill.—"What is a ton of corn fodder worth as manure at the time it is ripe enough to cut for fodder?" According to the best analysis at hand a ton of corn stover without any ears will be worth, for the plant food it contains, at the market price for these things, $4.50 per ton. Of course this is estimating at the value of the nitrogen, phosphoric acid and potash it contains, but it does not properly show its agricultural value, since the organic matter must go through the process of decay to render what plant food it has available to plants. Hence it is hardly fair to give the full value of the ingredients. That is, we would not put corn stover at $4.50 per ton merely for its manurial value. If in good feeding condition one might afford to pay more, knowing that he can recover a large part of the manurial value in the droppings of the animals fed upon the stover.

Soda as a Fertilizer. — W. F. Kyger, Port Republic, Va., says that he sent us a clipping from the Baltimore American, headed, "Soda as a Fertilizer." We have not seen the clipping, but our friend's description is sufficient. "The article says that late discoveries greatly reduce the cost to the farmers, and says that scientific men have demonstrated that soda can replace potash in a fertilizer, but the men who deal in potash salts will not admit it." We suppose that the article to which you refer is one of the same kind that the salt manufacturers have from time to time been putting in the papers for years. So far as the most exhaustive experiments teach us anything it is that soda cannot replace potash as plant food. The effect of nitrate of soda is due entirely to the nitrogen it contains, and this being in a very readily available condition is used at once, and the effect of the nitrate of soda is very evanescent. Any one who tries to persuade you that you can use soda in place of potash has an ax to grind, and you had better beware of him. If this were true then the low grade of potash salts like kainit would be the better to use, since there is in kainit over 80 per cent. of chloride of soda. But when we need the effect of a large percentage of potash we do not buy kainit, but the more concentrated muriate or sulphate. The article our friend quotes from he says states that two pounds of soda are equivalent to three pounds of potash, and that in buying nitrate of soda a farmer not only gets the nitrogen in the best form but gets soda in place of potash, which it can replace. We have no objection to the sale of nitrate of soda. It is the most readily available form of nitrogen, and for that reason may not, in all instances, be the best form, as a form that comes into use more gradually will last longer in the season. Sell nitrate on its merits, but do not try to make farmers believe that it has anything of value except nitrogen.

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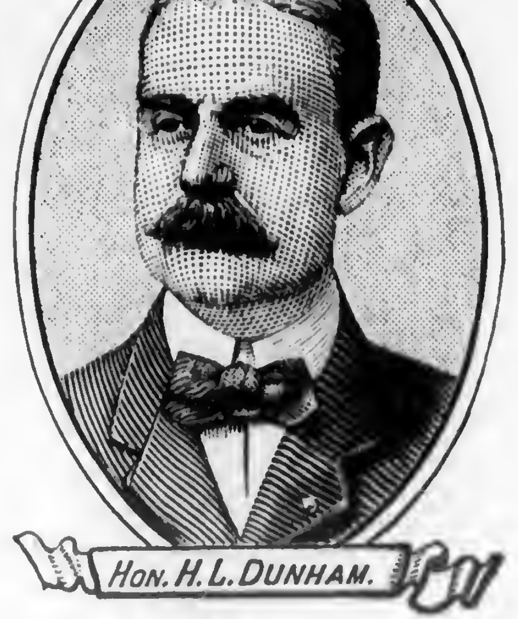
HON. H. L. DUNHAM.

An interesting letter to our readers from Hon. H. L. Dunham, Ex-Mayor of Dover, N. J.
Dover, N. J., Nov. 12th, 1902.
I had both kidney and liver trouble for over three years. I tried the best physicians in Washington, D. C., Pittsburg, Cincinnati and Chicago, and regret to say that I received very little benefit until I commenced taking the great kidney, liver and bladder remedy, Dr. Kilmer's Swamp-Root. After taking the first bottle I noticed quite a change which satisfied me that at last I had found the right medicine. I continued on until I had taken four bottles, by this time I noticed such a marked improvement in my health, in every way, that I felt satisfied I was cured. But, to be positive beyond a question or doubt, I was in Chicago during July, 1902, and went to the Columbus Medical Laboratory, No. 103 State St., and had them make a thorough and complete microscopical examination which showed my kidneys and liver to be perfectly well and healthy. I have their written report in my possession, signed by the doctors of the above Medical Laboratory, Which is recognized as one of the best in the country. Very truly yours,
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Rearing Beef on the Farm.

H. STEWART.

Skimmed milk is one of the most valuable of the farm wastes when fed to calves and pigs. Separator milk, though having less fat left in it than hand skimmed, is rated with it in feeding. The cow's milk should be fed the calf for a week, as it is useless then for other purposes. In using it the calf should be taught to drink from a pail. By holding his head in the pail and inserting the fingers in his mouth he can soon be taught to drink from the pail if the milk is warm. By the end of the week the calf will drink skimmilk with linseed oil meal mixed in it. Calves so reared have been made to weigh 1,200 pounds, live weight, at 12 to 18 months old. A well-known author cites the case of a calf which at the end of 12 months weighed, alive, 1,200 pounds, dressed, 902 pounds, had 748 pounds of actual salable meat and 154 pounds of tallow. Another, fed with this one, weighed 160 pounds when a month old, and at the end of the year had gained 1,040 pounds, or an average of over three pounds a day, live weight. These calves never tasted whole milk after the first week. Hence the butter dairymen need lose no butter, and can raise the beef calves from other cows on skimmilk, helped out with linseed meal, oat meal, corn meal and bran, and one calf may be raised for each cow on the farm. It may be estimated that the feed for the first six months will be made up of 250 pounds of oats, or 150 pounds of bran and 250 pounds of linseed meal, and the skimmilk may easily go for nothing, as it is useless elsewhere. But valued at one-fifth cent a pound, the whole cost would be represented by an animal of 500 pounds, so that it is easy to estimate the profit at the heavier weight, at this age. The next six months the cost may be estimated at one ton of hay, worth $8, one thousand pounds of grain food, worth $15, and then we may have an animal weighing 1,000 pounds, live weight, the present value of which will leave a handsome profit. The manure will easily pay for the labor. This means, of course, good stock. Scrub stock will not do, nor will the special dairy cows. The calves must be of a good beef breed, and fairly good calves can be had from grade Shorthorns. The supply of beef cattle is hardly up to the demand. Eastern farms have suffered by the diversion of the feeding interests to the Western plains, which, being public property, have been used without cost. The time is ripe for the farmer who feeds the world to come in and resume the vacated place, from which unequal competition forced him. The feeding of cattle will again become the most important part of agriculture as it formerly was.

Macon Co., N. C.

[The feeding of beef calves by the butter dairyman will necessitate the buying of the calves of a beef strain, for the butter dairyman cannot afford to keep beef cows, nor Jack-of-all-trades cows, which some talk so much about under the name of "dual purpose" cows. That is a cow half way milk and butter and half way beef and never the best for either. The calves from butter cows cannot be made to tip 1,200 pounds in a year, and if they did it would all be inside fat and no loins worth mentioning. The dairyman can afford to raise his heifer calves on skimmilk and grain, but he had better let the beef animals alone unless he can buy first-class beef calves for the purpose. We have heard of the dairy Shorthorns, and have spent a good deal of money to find them. If they ever existed they have been bred out in getting the true use of the Shorthorn, the best of beef. We have never yet talked about special purpose cattle but some Shorthorn man rises to explain that the Shorthorn is the greatest animal either for dairy or beef. The fact is that an animal which is the finest of a dairy animal cannot possibly be a fine beef animal and *vice versa*. The two characters are diametrically opposed, and just to the extent that a Shorthorn or any other beef breed, develops fine dairy qualities, to that extent she becomes a poorer beef animal. Mere size does not make an animal a good beef, and fat laid on by a dairy animal inside is not as profitable as the fat laid on the loins of a real beef animal. If a man's interest is in butter let him keep the best cows for that purpose and leave baby beef to the beef men, while he more profitably uses his skimmilk to raise heifers and feed pigs.—Ed.]

◆

Silage Yields in a Favorable Season As Affected by Distances Apart of Planting, 1902.

PROF. A. M. SOULE.

Crop	Distance of drills	Acres
1. Sorghum and peas	3½ ft.	2.2
2. Sorghum and peas	2 ft.	3.09
3. Sorghum and peas	3½ ft.	4.16
4. Corn, sorghum and peas	2 ft.	4.05
5. Soy beans	2 ft.	2.05

	Seeded	Harvested	Yield tons	Cost ton
1.	May 16	Sept. 6	11.67	$1.32
2.	May 10	Sept. 10	19.75	1.15
3.	May 9	Sept. 1	14.95	1.21
4.	May 7	Aug. 29	12.47	2.08
5.	May 12	Sept. 25	9.55	2.20

This table shows that phenomenal crops of silage can be produced in the South. In fact, in farming on large areas it need not cost more than $1 a ton to put this crop in the silo ready for the winter or summer feeding of cattle, as may be deemed advisable. There is no place in the world where larger and better crops of silage can be produced at so small a cost as in the South, and every man interested in cattle feeding must come as soon as possible to recognize the merit, economy and importance of the silo. In fact, the silo is essential to the successful stockman, as he can substitute the succulent feed it provides to the greatest advantage for the hay crops or tame grasses which the people in other sections of the country use to such advantage. It is also interesting to note that 5 per cent. of 2 and 3, and 15 per cent. of 4 consisted of cow peas. This determination was made by taking a bundle of each load of fodder as it came from the field and estimating the per cent. of vines it contained. Notice how well soy beans have done so far as yield is concerned, though as the silage from this crop has not been fed yet, it is impossible to say how valuable it may be.

Tennessee Experiment Station.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Milwaukee, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Indigestion.—Have a mare 8 years old. I give her at night two bundles (4 hands to bundle) of fodder; for morning I give her one bundle; sometimes I give her a good feed of herds grass hay. Either one she eats fairly well; but she cares for nothing else, much. She will eat from 8 to 10, or possibly 12, ears of corn per day; will not touch oats. I was told the ashes from corn cobs was a good appetizer and tried it, but she will not take it. What shall I do? 2. This mare also has very bad hoofs to hold shoes. Hoof breaks off very quickly. H. J. HEALAN.
Rock Spring, Ga.

The fact that she will not eat oats suggests that she has irregularities of the molar teeth, which make it difficult to masticate, so that you should at once employ a competent veterinary dentist if there is one in your district. If not, then with a fine hoof rasp file down the sharp points which will be found on upper molar teeth next the cheek and next the tongue of lower row. The tooth must only have edge filed—not the flat surface of the tooth. When the horse is able to eat 12 ears of corn at a meal it may be that this feeding is too much for his digestion, and we would advise cutting down the ration and giving more exercise or work. If he has a coarse coat of hair have him clipped. See that stable is kept clean and well ventilated and that he has soft drinking water. Allow a lump of rock salt in manger, to be licked at will.

Lung Worms.—My hogs first lose appetite, seem chilled and somewhat stiff; hump their backs and look drowsy and weak out of eyes. They mope around for about a week and begin bleeding at the nose and die the second day, apparently from loss of blood. They seemed constipated until I gave them purgatives. On examination the trouble seems to be in large intestines, the contents being in hard, almost dry balls.
Masonville, Ky. A. F. BENNETT.

The disease in our opinion is most likely due to the presence of thread-like worms in the windpipe and air passages of the lungs. The constipation is due to fever and may be counteracted by the administration of small doses of epsom salts in slop. If you have a very sick hog kill him and examine the lungs and air passages (bronchi) and see if you do not find the worms. Giving turpentine in one to two drachm doses in slop two or three times a week is the best remedy we know of, and along with this treatment hogs may be exposed to fumes of burning sulphur and have chloride of lime sprinkled on the pen floor that they may inhale the fumes. Keep them out of dust, for we have seen many instances of lung trouble and even bleeding from the lungs due to inhaling dust and setting up mechanical bronchitis. Feed generously and allow plenty of exercise. Some succulent food should be given at all times to regulate the bowels.

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Effects of Green Rye.—Will you kindly advise if it is prudent to allow pregnant mares and cows to run in rye pasture. There is an idea prevalent among some of our stockmen that green rye will in some instances cause abortion. W. E. GOODRIDGE.
Montrose, Va.

While it is, as you commonly thought, that green rye is dangerous, we have to say that there is a misunderstanding of the subject. It is not the rye that is so much to blame as the manner in which it is used. When the crop comes away with a fast growth in spring, owners are apt to turn their pregnant animals out upon it and allow them to eat all they want. It is the sudden change to green food that proves dangerous and this trouble would not be apt to occur were owners to turn their animals on the rye for a half hour at first and then gradually increase the time on pasture while at the same time taking care to provide an abundance of dry food and the grains on which the animals have been living prior to the advent of rye. At the same time care should be taken not to turn the animals on the rye when it is wet, and salt should be used on other foods or be licked by the animals at will.

Curb.—Please tell me of a remedy for curb in a horse. C. D. VAN ZANDT.
Spring Valley, N. Y.

If the curb cannot be noticed we fancy you are wrong in your diagnosis, and that there may be some other cause for the lameness. If it is curb there should be an enlargement on back of leg just below hock joint, which alters profile of leg, making it convex instead of straight at part indicated. If it is curb lameness the animal will become more lame when driven a distance and especially if any stress is laid upon the hock joint in starting or stopping quickly. If, on the other hand, the horse goes very lame for a few steps or rods when leaving the barn, and drives out of the lameness, it is spavin lameness. For curb, treatment at first consists in applying hot or cold applications to reduce fever and pain and after that has subsided applying a blister such as cerate of cantharides, one ounce; biniodide of mercury, one drachm; mix. If the curb is of long standing it is best to feather fire the part and then apply the above blister, and repeat the blister in a month if necessary. In slight cases, where there is merely an enlargement without lameness, persistent hand rubbing often removes the thickening.

Bitter Milk.—I have a grade Guernsey cow, which recently has developed quite a bitter taste to her milk. I have kept her milk separate from that of the other cow, and with the same feed, both hay and grain, her milk is bitter, while that of the other cow remains sweet. Have thought that it might arise from too much corn meal, with which she has been freely fed during the past season. J. C. BARTLETT.
Boston, Mass.

You do not state how long the cow has been in milk. If she has been milking for a long time and is near calving, the bitterness of the milk may be due to that fact. If this is not the case she is afflicted with indigestion and should have at once a physic drench composed of one pound of epsom salts, one ounce of ground ginger root, a cupful of molasses and two quarts of warm water at one dose. Change food and leave out corn meal for the present. In feed, three times daily, after the physic has ceased to operate, give her a tablespoonful of a mixture of equal parts granular hyposulphite of soda, powdered wood charcoal and hydrastis canadensis. As a bacteria is the cause of this change in the taste of milk care should be taken to scald milk vessels thoroughly, as they may contain the germ of the trouble, even after it is done away with in the udder of the cow.

Garget.—What can be done for a 2-year-old heifer coming in soon, whose udder is badly caked and enlarged. B. M. CLOSE.
Cato, N. Y.

The treatment you propose will do no good. Rub the udder well night and morning with a mixture of equal parts lanolin and mercurial ointment, and give one drachm of iodide of potash twice daily for a week. If the cow is pregnant the iodide cannot safely be used, as it is likely to cause abortion.

Constipation.—A short time ago one of my calves had become lame in all four of its legs. It seemed to be all right one evening and the next morning it was unable to get up. When put on its feet it would stand a while and then drop down again. It would eat and drink as though it was in perfect health. I gave it glauber salts, two doses daily, for three days. Then the calf began to improve a little and on the eighth day after it had taken sick it could get up again without any assistance. The calves had been fed on separator milk, prairie hay and oats. On account of deep snow they had been confined in a small place in the barn for about two weeks. H. RICKENBERG.
Battle Creek, Neb.

Such cases are comparatively common where calves are getting too much food for the amount of exercise they receive. Constipation is caused and paralysis often follows. In our experience most of the trouble is due to too much separator milk at too long intervals. Give the milk oftener and be sure that bowels are kept freely open. It was the glauber salts acting as a purgative, curd dissolver and digestion regulator that saved the calf. To prevent the constipation referred to we like flaxseed jelly in the milk and a little dried blood meal to balance the ration. This feeding makes fine, well developed, healthy calves.

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Society of Christian Endeavor, Denver, 1903.

The Passenger Department of the Chicago & North-Western Railway has issued a very interesting folder on the subject of the Christian Endeavor meeting to be held at Denver, July 9th to 13th, together with information as to reduced rates and sleeping car service, as well as a short description of the various points of interest in Colorado usually visited by tourists. Send 2-cent stamp to W. B. Kniskern, Passenger Traffic Manager, Chicago, for copy.

◆

A Booming Business. — The International Stock Food Co., Minneapolis, Minn., inform us that owing to the great rush of business they are compelled to run their factory day and night. Their office force alone numbers 130 people, and their office is the largest in the Northwest. Their sales for 1903 have been much larger than for the corresponding months in 1902, and their March sale was the largest month since they have been established. We are pleased to report this condition, because it is absolute proof that "International Stock Food," and the other goods made by the company, have superior merits and that farmers and stockmen obtain paying results from their use. Intelligent farmers will not use any preparation year after year if they are not satisfied that it is a money maker for them. The company's largest trade comes from the States where "International Stock Food" has been on sale the longest.

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My remedy does that even in the most difficult, obstinate cases. It has cured the oldest cases that I ever met. And in all my experience—in all my 2,000 tests—I never found another remedy that would cure one chronic case in ten.

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Pat. May 21, 1901.

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The way he found the leak was when he figured his year's profits of his cattle, hogs, sheep and poultry and the year's work done by his farm horses,—and compared them with the record of his neighbor, who uses Chloro-Naptholeum Dip on his stock and in his stables, pens and poultry houses.

"I don't consider Chloro-Naptholeum Dip an expense," said the neighbor, "it is an actual economy and as much a source of profit as the feed that I am turning into beef, pork and poultry here on my farm.

"What cause the leak in your pocketbook, neighbor, are the little and big diseases among your animals — Hog Cholera and epizootic diseases, the lice on cattle, hogs and poultry, the mange, the itch, scab, ticks, sores and wounds. I get my Chloro-Naptholeum Dip in five-gallon cans, and it costs me only $6.75 freight prepaid. I find that whatever is wrong with my stock Chloro-Naptholeum Dip will stop what's the matter.

"Whenever I face any particularly hard problem in keeping my animals healthy I write for free advice to the Veterinary Department of the West Disinfecting Co., Inc., 15 E. 59th St., N. Y. Their advice is always reliable, and the answer comes more promptly than through any other bureau.

"The company makes special arrangements for men who have small herds like mine. They do not try to make a profit out of their dipping tanks, but they offer tanks to their customers at especially low prices. I am particularly attracted by their offer to send a $15.00 hog dipping tank for $13.50; or a sheep dipping tank worth $13.00 for $11.50 to anybody who buys Chloro-Naptholeum regularly. I think we might go in on this offer very profitably. My herds are not very large, neither are yours, and it would undoubtedly pay us to get a dipping tank jointly. I know that this is a very common practice among farmers who have not large herds.

"I find it a great saving and great protection to my live stock to spray Chloro-Naptholeum around my stables, pens and hen houses. I use an automatic sprayer pump, a pattern made especially for spraying Chloro-Naptholeum Dip, and endorsed by the West Disinfecting Co. It is worth $5.00, but it did not cost me a cent, as they sent it to me free with my first order for ten gallons at $12.50. The sprayer is automatic and is so convenient that I can put the spray right where it ought to be at a minute's notice, and the next minute can be going ahead with the farm work.

"By having Chloro-Naptholeum Dip always handy, and using it in this way I find that the animals are healthier, that they are more vigorous, that they put on more weight than when I trusted to the happy-go-lucky system, like a man who neglects to fertilize his fields.

"When you ask for Chloro-Naptholeum Dip be sure that you get it. Imitations will not do the work. If there was an agent near here you could get it from him at the same price that you would get it from the New York office.

"If you want to prove the value of the dip before you buy in quantity for actual use, the best way would be to order a one-gallon can, which costs only $1.50, freight paid to station. This is enough to make 100 gallons of the spraying fluid. At 1½c. a gallon, you can see how cheaply you can keep your stock healthy and thrifty.

"A one-gallon can used on stock will produce a very distinct improvement in the animals within a very few days. It is proof that you can see with your own eyes.

"Your pocket-book is leaking, neighbor, unless you adopt some measure to keep down the germ and parasite diseases that keep your stock poor."

Chloro-Naptholeum
DIP

O. I. C. SWINE As good as money will buy or scientific breeding produce, at prices that farmers can afford to pay. Pedigree furnished with every animal. Start right by ordering a bred sow or a pair of pigs.
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THE GARDEN.

This department is under the editorial charge of M. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

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P. O. Box 1317, Philadelphia.

Talks on Timely Topics.

Onions Profitable.—Onions are profitable, or can be made so, no doubt about it. Nor are they a crop that will make excessive draughts on soil fertility, although the soil should be well provided with plant foods, even in excess of the actual needs of the crop, as the roots do not go very far in search of plant food. A prominent grower in Sunderland, Mass., where 300 acres of onions are annually grown, has made a comparison of the outcome of the onion crop with that of tobacco. He finds that the outlay for a crop of onions is not so great as that required for a crop of tobacco. Thirty to forty dollars, he says, will buy the tools required for onion raising, and $5 to $6 buy the seed. No expensive processes for curing are required. The crop may be sold from the field if prices are right, or may be stored at small expense. This man declares that for three or four years he tried to raise tobacco for money, but the mortgage did not grow less in that time. He turned to onion raising, and the mortgage melted away quickly. He has now grown onions for thirty years, and seldom without satisfactory results.

For Onion Smut. — The disease has often been a serious problem for onion growers in various sections of the country. I see it stated that the application of ground lime before sowing, and the sprinkling of a solution of formalin on the scattered seed have proved as good methods as any known to fight the disease. I have never see a sign of it in my onion patches, the onions being grown by the new (transplanting) method. It is now generally conceded that smut cannot affect onions after being thus grown and set in open ground. So this new plan can be recommended to all onion growers who have or can expect to have trouble from onion smut in onions grown directly from seed.

Planting Strawberries. — Mr. Tice favors the spade as a tool for setting strawberry plants. I agree with him. In fact, I have never seen or heard of any method by which strawberry plants can be set as rapidly, and as well, too, as with a spade in the hands of one man, and the plants handled and inserted by a quick youngster. In Oswego, the man with the spade carries on his hips, held by a belt and straps from the shoulders, a medium-sized basket with plants, prepared ready for setting, from which the boy who handles and inserts the plants, can help himself at will. It's a good idea. By this method an acre of strawberries can easily be planted within a day's time, depending, of course on how close the plants are to be set. I make my rows 4 feet apart, and let the matted rows be 15 or 18 inches wide. Possibly making the rows closer together, and letting the plants in the row spread a foot wide, would give us larger and finer berries.

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Current Comments.

Compressed Air Sprayers and Knapsacks.—Harry L. Smith, of Oxford Co., Maine, asks my advice in regard to the comparative merits of compressed air sprayers and knapsack spray pumps. He has strawberries and potatoes on areas not larger than three-quarters of an acre. I have never fallen in love with any compressed air sprayer that I have yet examined. I have never known anybody to be wholly satisfied with them after a thorough trial. You can spray a short piece of row after the machine has been "loaded," and then you will have to stop and reload. In short, I find the knapsack more convenient, more easily carried, and altogether safer. For patches of one-half to one acre of potatoes, strawberries, grapes, and other crops, the knapsack is exactly what you want, and by all means get a good one, one made of strong copper, and provided with an automatic agitator. I have use for my knapsack almost constantly—in the greenhouse, in the hen house, in the vineyard, the potato patch, the celery patch, the melon, cucumber and squash patch, etc. I keep it always ready for action, and whenever there is a sign of injurious insects, or of fungus disease, the knapsack is the thing we at once turn to for relief. It gives entire satisfaction, which I would not expect from the compressed air sprayer.

Setting Apple Trees.—Jacob Ackart, of Schaghticoke, N. Y., writes to Bro. Terry that his folks expect to set an apple orchard this spring, and would like to have the opinion of successful fruit growers about the best space to allow to each tree, and the best positions of the trees to one another. Bro. Terry, knowing that I live in one of the greatest apple countries of the globe, and that I am more or less engaged in apple growing myself, refers this question to me. Friend Ackart suggests the plan of setting the trees in triangles rather than squares, so that every tree be surrounded by a hexagon of trees at equal distance from it and from each other. His idea is to utilize all space to the best advantage. Our earlier planters, not only here in this vicinity, but almost everywhere else, had fallen into that same great mistake of wishing to make the most of their space, and consequently of planting so close that now, as the trees have grown to full size, they form a regular forest, the foliage overhead intercepting every sun ray and leaving the ground below in half darkness even on clear days, and affording no chance of convenient gathering of fruit, of spraying, etc., and thus giving insects and diseases every advantage, and every opportunity to do their mischief without interference and check. Many of our older apple orchards have from this very reason become absolutely worthless, barren and fit only for firewood. To grow good apples, the trees must have proper space, and sunlight, not only on top of the foliage, but also to the ground between trees. We now plant 40 feet apart, and grow some hoed crops, such as corn, potatoes, carrots, mangels, etc., between the trees for a few years, always taking pains to give these crops their due allowance of plant food, in the form of manure or fertilizers, especially mineral ones. Some people talk about using a filler between the standard apple trees, such as, for instance, peach trees, or early bearing apples that may be cut down when the regular trees need the room. The Wagner apple has been recommended and used for this purpose. The idea would be practicable if people were not so unwilling to cut down a tree that can be expected to give fruit. "One more crop" seems to be the motto, and the filler is apt to be left year after year until the whole orchard is ruined by the crowding of the trees. Peaches would do better, perhaps, as they will die out anyway after a series of years. But mixed planting has usually its disadvantages. If you wish to raise first-class apples, and such only pay, by all means set a straight apple orchard, the trees to be 40 feet apart each way. Then give good cultivation and care, and keep insects and fungus diseases under control, and you will succeed with your orchard.

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Notes from a Carolina Garden.

With the first day of April the yellow Banksia roses broke into bloom, the earliest of the roses. It is a pity that these handsome climbers are not hardy enough for our Northern friends. Clambering over many a portico here, both the yellow and white Banksias climb to the second story of the houses. The white has a peculiar violet odor, while the yellow is about scentless, but is the most profuse in bloom. They might be treated in the North as one grower there treats the Marechal Niel. He has it planted alongside the house near a cellar window, and in winter the weak wood is cut away and the long canes pulled into the cellar window, while the root outside is covered for yards heavily with coarse manure. In the spring the canes are pulled out and tied up again.

We have planted Wood's Bush lima beans and the first string beans, the Extra Early Valentine. Before the last of the week we expect to get our first muskmelons and cucumbers in the ground. We have found no way better for these than to make wide holes 6x6 feet apart and in them put a half wheelbarrow load of fine rotted manure, and pull the earth over it after adding a handful of high grade fertilizer to give the vines an early start. We are trying several of the bush lima beans this spring. Our success with Wood's bean last year was so great that we put our main reliance in it. We selected for seed the beans that were of a thick character and very white, and picked of these only the very largest, hoping to improve the size of the beans. They are now far larger than the Henderson, and when green are little inferior in size to the old large lima, and far better in flavor, for the little Sewee or Butter bean of the South has always been of better flavor than the large lima.

The fruit trees have all passed out of bloom except the apples, and the prospect for fruit is fine. We have had no frost since the first week in March, and the chances for frost now are very slight. A Northern correspondent a few days ago asked where the Carolina garden is, and seemed to think it must be near Asheville, since about all many people North know of North Carolina is Asheville and Pinehurst. Our garden is about 275 miles east of Asheville and 70 miles north of Pinehurst. North Carolina is a large State. It juts out into the Atlantic beyond the rest of the Southern coast, and its far west corner is due south of Cincinnati, and the climate varies from palm trees in the forest to the hemlocks, white pines and firs of Canada in the Western mountains. Our notes are for the eastern edge of the Piedmont country. On the coast they are shipping strawberries now, while ours are still green, and on the western mountain plateau they will be ripe about the same time they are around New York City. A wonderful range of climate in one State.

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Buying House Paints. — On another page will be found the card of the Sleck Paint Co., Dept. P, Chicago, whose business of selling paints by mail should interest our readers just at this time. They guarantee their paints and their catalogue contains a full line of paints and supplies. This company has been doing business in one place for over fifteen years and has the confidence of its thousands of patrons. If our readers want to do any painting this year we shall be glad to have them write the Sleck Paint Co. for their prices, and don't forget to mention the P. F. when writing.

APPLE TREES That will grow. Varieties and stock all of the best. Catalog Free.
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TREES kept dormant till May 15th. Peach trees one year from bud, 1 and 2 cts. each. Also Pear, Quince, Japan Plum. Circular free.
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After Abortion cows should be injected with Hood Farm Antiseptic Breeding Powder, which thoroughly disinfects, kills all germs and **makes cows breed.** Also successful where cows fail to clean and where they do not come in season regularly.
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Mention this paper in ordering.

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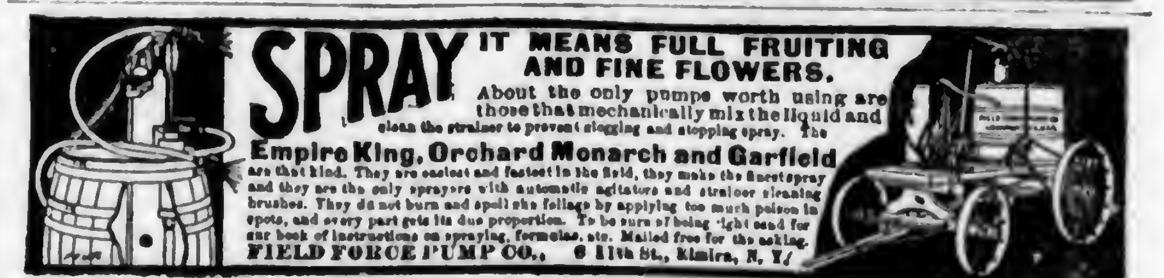

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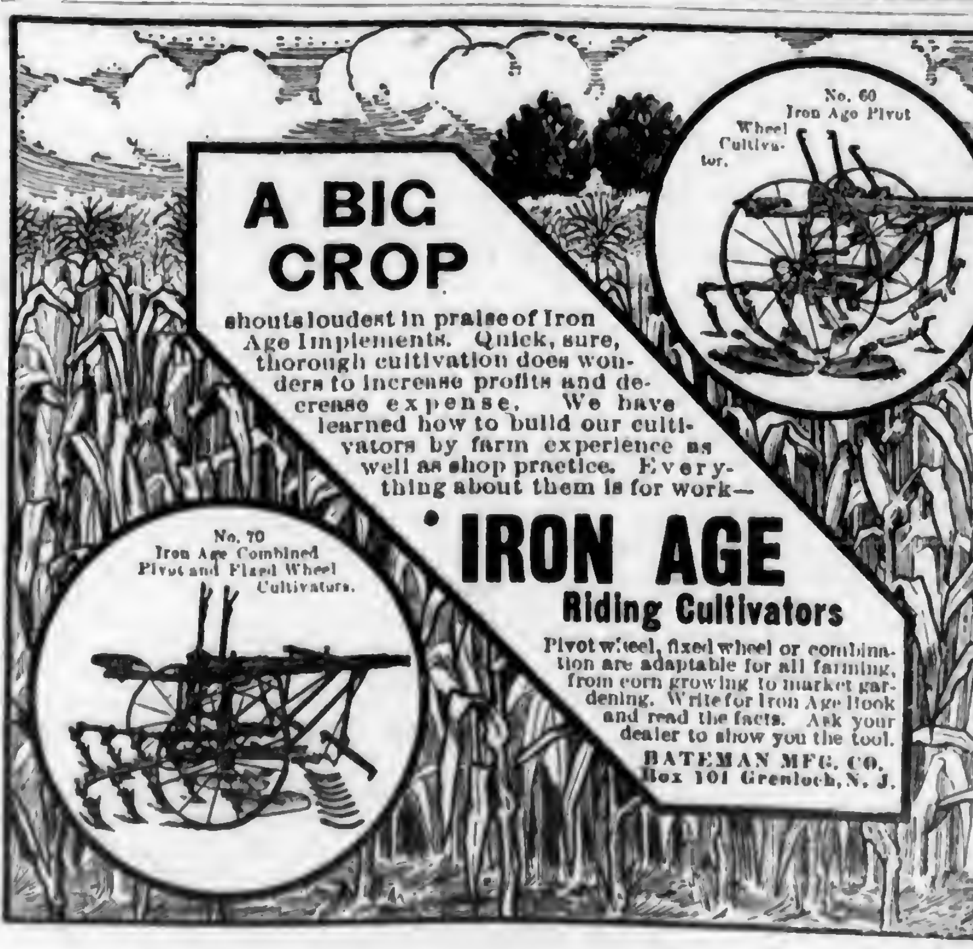

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Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Root Pruning Fruit Trees.

That the pruning away of roots of fruit trees will cause them to fruit quickly is well understood, and is sometimes practiced by our fruit growers when a tree has grown strongly and has passed the time when it should bear without having fruited. English fruit growers understand this and practice it, but they root prune also for another reason, which is that they believe deep roots not only lessen the flavor of fruit, but that they cause disease in the fruit as well. The following extract from one of the leading horticultural papers of England relates to this subject: "I have found that from trees with their roots deep in the subsoil, even if they fruit freely, neither apples nor pears satisfy, because disease spots develop in the fruit when they are on the verge of ripening, if not before, rendering them of no value, because decay so quickly sets in. To have good fruit, either of apples or pears, the roots of the trees must be active surface, fibrous ones, otherwise the crop will be much reduced in value. Some sorts are greater offenders than others, it is true, but even the best can be readily spoiled if the conditions are not right." The explanation of this would seem to be that the deep-growing roots carry to the tree food of an undesirable nature, rendering the tree and its fruit more susceptible to the attack of fungi, presuming the disease spots the writer speaks of are of this character. That there is much of the good or ill doing of fruit trees traceable to location is well known; and it is quite likely that when trees are in cold, deep ground, the nearer the roots can be kept to the surface the better would be the fruit.

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Horticultural Queries.

Jonquils.—Kindly give me some information about the culture of jonquils. I want to know all about them, as I am going to raise them for market. Kindly tell me how to fix hotbed for carnations and hyacinths, what varieties and colors are most salable, time to plant and where best to market.

Hudgins, Va. Z. H. POSTLES.

Jonquils are increased by offsets, a name given to the young bulbs which cluster around the old ones. These offsets are taken off and planted out when the tops of the bulbs have died down, which is about June or July. Then it is that the young bulbs are detached and set out to grow to a flowering size. A deep and rather stiff soil suits them best. You must find some florists in your nearest large cities who take flowers to sell on commission. They would instruct you how to pack and ship. Any ordinary hotbed would do for hyacinths, but you cannot grow carnations for market unless in a greenhouse.

Apple Tree Dying. — Can you tell me what is the matter with one of my apple trees? You will find a small twig in this letter. The whole tree is affected. Part of the tree is dead. The tree is about four years old. This is the only tree in the orchard I can see anything wrong with.

Jeannette, Pa. JAS. E. PAINTER.

The twig you send is covered with the apple tree bark louse. If the tree is nearly dead, cut it down and burn it, to prevent the pest from getting to the other trees. To kill it, spray with whale oil soap, or kerosene emulsion. Do it now. Wash limbs with soap suds if you can. Common whitewash will kill it. Any grease that covers the insects will kill them. What you now see on your twigs are the scales of the old insects under which the live insect lives.

Raspberries.—Why is it that nurserymen cannot call all such berries as the Shaffer and Columbian purple berries, and Loudon, Cuthbert, Miller, Marlboro and Turner red? Why do they call Cardinal red, when it is purple? Saline is between 38 and 40 degrees north latitude. My soil is black loam, regular blue grass land. With me Shaffer and Columbian winter-kill, Cuthbert has proven more successful than either Loudon, Miller or Marlboro. So far, Kansas has proven best of the black caps, though Gregg, Conrath, Ohio and Nehema do well. I have bought and intend to try the Cardinal and Cumberland. R. G. ROBERTSON.

Marshall, Mo.

It would indeed be of great benefit to all concerned were the colors of fruits to be accurately described. Many persons do not know the names of colors, and in many cases anything approaching to the typical ones is called by one of the names. It reminds me of the late Peter Henderson, who said of a foreman of his that any flower of a pink, rose, red or crimson tint was always described by him as being "a kind of a red." Taking the case of purple flowers, hardly one so-called in lists prove really purple, and it is so with fruits. Now, is the Columbian really a true purple? The Clematis Jackmanni is regarded as a true purple flower, and I do not think the Columbian is just that color. Your notes on the hardiness of the various sorts are much valued. Your estimation of the Cuthbert agrees with what is placed on it here. It is the standard kind. Miller is hardy, firm and productive, but lacks quality.

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Horticultural Notes.

Ferns.—Many of the large growing ferns do splendidly along the north or east side of a house or fence. The three Osmundas, flowering ferns, as they are called, are particularly effective.

Adorning Fences. — The adorning of fences by the planting of honeysuckles to the posts is much practiced in the vicinity of many Eastern cities. Three kinds, the Japanese, the variegated leaved and the Chinese are alternated, creating a pretty effect.

Evergreens with little balls of earth attached can be moved at almost any time excepting winter. Late summer and fall are very favorable seasons. The ground is hot, and with a good watering, new roots are formed at once.

Weak Growing Roses obtain required vigor when budded on Manetti stocks, but the suckering nature of the Manetti requires that it be watched, that the whole plant does not become Manetti. Planted deep, it is less apt to sucker than when not so treated.

Japanese Wineberry. — Rubus Phoenicolasius, the Japanese wineberry, has met with but little enthusiasm as a fruit, but as an ornamental bush it has real merit, being pretty in both leaf and fruit.

Wild Cherries.—If you have wild cherries springing up in your hedge rows, or wild apples, graft them this spring with some handsome flowering kinds, say Bechtel's double flowering crab and the Cerasus Sieboldi cherry. If too late for grafting, bud them in the summer.

Spraying. — Keep the sprayer going all through the season. Spray even when fungi or insects are not visible, that the trees may be thrifty. Some experiments by the U. S. Department of Agriculture some years ago resulted in showing that sprayed trees grew better than unsprayed ones, even when the latter were free from all pests.

Pruning Peach Trees.—To have peach trees bushy instead of with long, naked branches, prune them in summer, by nipping off the ends of growing shoots. Several side shoots take the place of the one after this. Start when trees are young, and symmetrical trees branched from the ground up result. How much more beautiful and profitable such an orchard of trees than those let go without being pruned.

POULTRY.

This department is under the editorial charge of A. F. Hunter. All letters, inquiries and requests should be addressed to him at the Practical Farmer office, P. O. Box 1317, Philadelphia.

The Census Report of Artificial Incubation.

The two volumes of the report of the twelfth census (1900) which are devoted to agriculture, contain some most interesting generalizations upon special features of interest, and among the pages devoted to poultry and bees is over half a page given to artificial incubation, which is good, sensible incubator talk. It says: "The incubator helps the producer to overcome the difficulty of weather conditions. By its aid he can secure chicks at such times and in such numbers as he desires. To secure pullets that may furnish a good supply of eggs for the better markets of autumn and winter, it is necessary that chicks be hatched in March and April. This is often difficult if dependence be placed upon the hen, but is always practicable with the aid of incubators. The incubator is also of the greatest value in raising 'broilers' for the market. It is only by its use that it is possible to have 'broilers,' as well as autumn and winter laying pullets, in sufficient number to make poultry farming successful. The proportion of eggs hatched is probably as large as by the hen. One of the great advantages of the incubator is that its use prevents the young chicks from becoming covered with vermin, as is often the case with natural incubation. The continued use of the incubator tends to make the hen forget, in a measure, her maternal instincts. It is said that in Egypt, where artificial incubation has been employed for centuries, the hens exhibit very little tendency to become 'broody,' and much of the time formerly spent in being 'broody' is available for egg laying. This fact assumes gigantic importance when it is remembered that it has been discovered that there are 600 embryo eggs in the ovary of a hen. It has been further ascertained that two-thirds of this number can be secured in the first two years of the hen's life, provided suitable measures, and more time can be given to egg laying, incubation being left to the artificial incubator, and if, in addition, egg-producing food be fed, the problem of getting the greatest number of the eggs from the hen the first two years of her life will be very near solution."

The point of suppression of the broody instinct is most important, and will be appreciated by busy farmers and farmers' wives who have been afflicted with a flock of persistently broody hens—most persistently broody at the time that we most want them to produce eggs. It has been noted in flocks where every tendency to broodiness has been quickly discouraged that subsequent generations developed less and less broodiness, and in the non-incubating varieties, we have an example of cases where the broody instinct has been practically suppressed, to the improving of the egg-producing tendency; it is fair to argue, then, that the gradual eradication of the broody instinct will be followed by an increased egg yield.

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Poultry Queries.

Indigestion Again.—Mrs. O. L. Smallwood, Hermosa, Col., writes: "Will the Poultry Editor kindly tell me what ails my chickens? They are first attacked with a dizziness and cannot stand up. If placed on their feet will fall over onto their side. After third or fourth day they die. Their ration has been bran mashes, morning; wheat, oats, steamed and dry cut alfalfa, meat scraps, pounded bone, etc., poultry food or seed meal occasionally in the mashes. Have raised chickens a good many years. Now have the pure bred Silver Laced Wyandottes. Never lost a fowl from these symptoms in the scrub breeds." Your description of your difficulty does not give me any clue to the trouble, excepting that it is apparently a form of indigestion, possibly caused by too much bran mash and an insufficient food ration. This question has been very much discussed in the P. F. this last winter, and if you had carefully studied the Poultry Column you would not have made the mistake. Bran is not nourishing, and you should have added corn meal and wheat middlings and some steamed alfalfa to the mash. It is possible also that you have been overfeeding the poultry food and seed meal you mention. All of these stimulating foods are over-stimulating if fed in any quantity, and quickly upset the digestive organs. If rightly fed, fowls need no such stimulating stuff.

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The Cream Separator.—The advertisement of The DeLaval Company in this week's issue gives a very interesting and imposing array of the prominent users of the DeLaval machines and certainly constitutes a splendid testimonial to these machines, which were the first to be introduced and which their enterprising makers have ever kept well in the van in this important industry. The most remarkable development in dairying in recent years, if not in all its history, has been the centrifugal cream separator. After ten years of experiment by different persons Dr. DeLaval of Sweden perfected the first practical separator in 1879, the introduction of which followed in America about 1883. The first machines were of power types for factory or creamery use, intended for separation of the milk gathered together at the factory. This worked an evolution in the system then obtaining of raising the cream in cans or pans on the farm and delivering the cream only to the factory. The new method of centrifugal separation saved on an average as much as 25 per cent. of the butter-fat which went to waste in the old way. Some five years later the first hand machine was perfected and introduced by the De Laval Co., but was limited in capacity and rather heavy and tiresome of operation. In 1890 Baron von Bechtolsheim, a German, worked another evolution in the separator by putting a system of discs or closely fitting cones into the separating bowl, which gave to a bowl of any given size very much greater capacity than before, and at less speed, at the same time enabling even more complete separation than the earlier machines. This invention, too, came into the hands of the De Laval Co. and was perfected by them. With the help of the so-called "disc" construction and still further improvements, mostly by Americans, the sale of cream separators has enormously increased throughout every country in the world in which dairying is practiced, and today centrifugal separation of cream is almost universal. The sale of De Laval machines alone is said to approach 500,000, while a great many have been sold by other concerns, which by the expiration of earlier patents have been enabled to take up the manufacture of modified types of the separator. Another evolution is now taking place in that the farmer is going back to the home separation of his cream and delivery of the cream to the factory, just as was the case with him when the separator was first introduced. The cost of hauling to the factory is much less by reason of the bulk of cream being only about one-sixth that of the milk, while at most seasons delivery need not be made but every other day or twice a week instead of every day as with the milk. Then the skimmilk is had immediately after separation when still warm and sweet and in its best condition for feeding, while much of its value is lost in the condition that it comes back from the factory. Naturally, such a state of affairs means an enormous demand for small or farm machines. The De Laval shops at Poughkeepsie have been working day and night with double shifts of men for over two years, with constant increase of plant, and still the demand exceeds the supply. In illustration of this great demand it is reported that two concerns alone—one in Kansas and one in Nebraska—have each contracted for at least 5,000 De Laval machines during 1903, after having put out almost as many before.

◆

$33.00 to the Pacific Coast
Via the Chicago & North-Western R'y from Chicago daily Feb. 15 to April 30. Low rates from Chicago to points in Colorado, Utah, Oregon, Washington and California. Pullman tourist sleeping cars to San Francisco, Los Angeles and Portland, daily, double berth only $6.00 Personally conducted excursions. Choice of routes. Address W. A. Cox, 601 Chestnut Street, Philadelphia, Pa.

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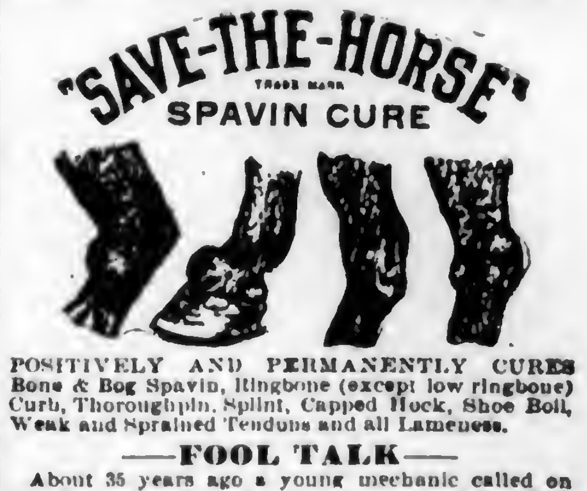
Do You Want "Barred Rock" Layers?
Bred for eggs for 10 years. 135 hens averaged 198 eggs in a year. Eggs $2 per 13, 5 per 40, $10 per 100. Incubator eggs $6 per 100, $10 per 200. J. W. PARKS, Altoona, Pa., successor to H. F. Cox. Laying hens, $2 each. Reductions on large orders.

$12.80 For 200 Egg INCUBATOR
Perfect in construction and action. Hatches every fertile egg. Write for catalog to-day.
GEO. H. STAHL, Quincy, Ill.



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POSITIVELY AND PERMANENTLY CURES Bone & Bog Spavin, Ringbone (except low ringbone) Curb, Thoroughpin, Splint, Capped Hock, Shoe Boil, Weak and Sprained Tendons and all Lameness.
—FOOL TALK—
About 35 years ago a young mechanic called on old Commodore Vanderbilt, then head of the New York Central Railroad, in an effort to secure a trial on a New York Central train of a device for stopping trains by compressed air.
"Air!" the Commodore is said to have exclaimed, "Air!" Stop a train with air! I've not time to listen to such 'fool talk,' young man," and he didn't. Neither would anyone else for many a long day.
George Westinghouse, for he was the man of the "fool talk," believed in himself and the utility of his invention. He kept right on in spite of Commodore Vanderbilt and the others, till he forced recognition. Would a man trust himself aboard a passenger train today, if he knew that train was not fully equipped with Westinghouse's invention—the air brake? It is said that Vanderbilt's Road had some difficulty in getting it when finally it was wanted.
Many a man says "fool talk" when he reads the claims made for "Save-the-Horse" spavin cure, but the dawn of enlightenment is as certain as the rising of the sun, and the man who says "fool talk" after reading the facts so plain and convincing as given by us, reaffirmed by the letters published in these columns every week, and in our booklet, is repeating Commodore Vanderbilt's mistake. No man need be in doubt as to what "Save-the-Horse" spavin cure can, and cannot do. If you have a case different from what are described in booklets and advertisements, send us full particulars as to the age, location, cause of the lameness or swelling, the horse's action, previous treatment, and also the veterinarian's diagnosis, if you know he is competent, and will tell you frankly as to the possibilities of our remedy. Write for booklet and copy of guarantee and any information desired.
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Work horse continuously if desired.
"Save-the-Horse" cures without scar, blemish or loss of hair.
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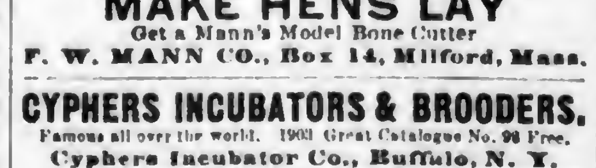

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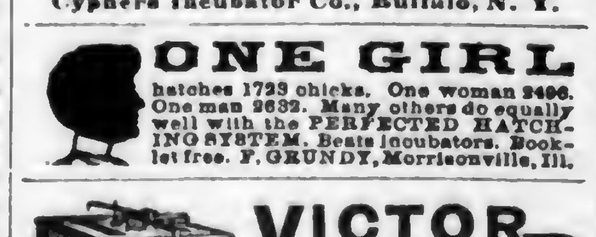

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The Practical Farmer.

FOUNDED IN 1855

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Philadelphia, Pa.
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PROF. W. F. MASSEY, Editor.

Philadelphia, April 25, 1903

We Renew the Liberal Offer Made a Year Ago.

Last April we stated editorially that every paid-up subscriber to the P. F. could send in new names for the paper for the remainder of the year, as a trial subscription, for ten cents each. The result of this remarkable offer was simply astonishing, and the permanent increase in the subscription list so great from these trial subscriptions that the publishers have determined to make the same offer for this season. *The names sent in must be of those who have never taken the P. F., and must be sent in by one now a subscriber, between the 1st and 10th of May next.* The object of this liberal offer is, of course, for the purpose of putting the paper into as many new hands as possible. We find that when a farmer once gets to reading the P. F. he is apt to stay with us, and become a regular subscriber for years. What we want our friends to do is to help us put the paper into as many new hands as they can. We will take care of them afterwards. We get hundreds of letters from our subscribers telling us how much they value the paper, and if you feel the paper is helping you, it will be an easy matter to procure others to try it on such a liberal offer, and thus get them to reading what you have found to be the best help in your farming. Tell your friends who do not, and have not, taken the paper that they can have it for over seven months for less than the postage costs. No other farm paper has the courage to make such a liberal offer, and it is renewed now because the results last year were so perfectly satisfactory to The Farmer Co., and so many trial subscribers of last year are now permanent yearly subscribers at our regular rates. Please start to work at once, for the offer will certainly close the 10th of May; we cannot afford to keep it open longer. We secured last year many thousands of names on this trial offer, and this year we hope to get even more from every subscriber who values the P. F. and wants to extend its circulation, as our circulation is 10,000 copies larger each issue than it was then. This will cost the Farmer Co. heavily, but they have faith in the paper and its ability to keep its readers, and are willing to stand the expense, especially as so many renewed this year. We want to keep the paper improving in every way, and the way to improve it is to keep enlarging our subscription list. Some of our friends make their money orders payable to the Editor. Do not do this, but simply make them payable to The Farmer Co., Philadelphia. We will not be surprised at any number of names that will come in, for the best advertisement the paper can have is the man who feels that it is helping him in his farming. That is what the paper is intended to do. We keep the educational idea always to the front, and try to make everything in the paper of practical value to all its readers, and the publishers are willing to spend the money on their friends rather than advertise in other ways. Start the ball at once, for you will have but ten days positively, as we cannot afford to keep such an offer open indefinitely.

Stopping the Sand Dunes.

On the coast of the United States in many places the great sand dunes are creeping inland and threatening the life saving stations and private property. Some time ago the Bureau of Forestry of the Department of Agriculture made an examination of the beach in Currituck Co., N. C., and began work in connection with private owners to fix the drifting sands so as to admit of forest planting. Board fences and other structures were built to alter the course of the most threatening dunes. The work last spring was advanced to such a point as to admit of planting beach grasses. With a temporary cover of grass this season forest planting of 30 to 50 acres will be made this year, and it is hoped that the drifting of the sands will be checked. In Oregon, the dunes were destroying orchards and valuable agricultural lands, and attempts will also be made there to check the dunes. Years ago there was a series of sand dunes north of Ft. Monroe, Va. During the late war these were all transformed into batteries and now are covered with grass, showing that it is practicable to stop these dunes if properly undertaken. This is the proper work of the Forestry Bureau, and it is to be hoped will be carried out all along the coast.

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Forage and Grass North and South.

"In most of the South, where the regular clovers and grasses are not successful, and where the season is long and hot, cow peas are, no doubt, a great boon; but to one who *has seen* the deplorable condition of forage and fertilizer crops in nearly all the Southern States, and of all that relates to the dairy and other live stock interests as compared with ours in the prosperous agricultural North, it creates a spirit of surprise and mild indignation to have Southern writers and editors advise us so persistently about our rotations, our forage and fertilizer crops and our live stock interests."—W. I. Chamberlain, in Ohio Farmer.

We are exceedingly sorry if anything that *this* Southern Editor has written has excited the indignation of the editor of the Ohio Farmer. He has *seen* the South, probably from a railroad car. But does Mr. C. know that the census reports show that for ten years past the average yield of hay per acre in North Carolina has been greater than that of the States of New York, Ohio or Iowa? Our farmers do not give the attention to these things which they should, and farming in general is far inferior in the South to what it is in Ohio. But we are working hard to improve it. Ohio did not have her whole country laid waste in war. She did not have a horde of thieves after the war to render her still poorer. The Southern farmers have been coming up from the bottom, from devastated homes and plundered finances, and the improvement has naturally been slow. But it is manifest, nevertheless, and the agricultural interests of the South are advancing. No Southern writer has ever tried to dictate the rotations or practice in Mr. Chamberlain's farming. We have suggested what we have thought, from time to time, would be of benefit to farmers anywhere, and our "suction range" is wide enough to take in even Ohio, and if we can help Ohio farmers by introducing to them crops that may prove of value to them we are not interfering with their superior farming. When the financial results are taken as the test of success we know that there are in the South farmers whose profits from their farming and dairying (and there are thousands of them) would put to blush the results on many an Ohio farm. We know one man in the South (and there are others) whose annual income from his farm crops is $75,000 and over. How many farmers have you in Ohio who make as much? An expert Vermont dairyman in Georgia says that he can make butter as well, more cheaply, and can get more money for it than he got in the North. We can show you in the South fields of alfalfa, not mere lots, but large fields, that cut more hay per acre than nine-tenths of the Ohio farms do. If you want to *see* the South, Mr. Chamberlain, you must get off the railroad car and visit the plantations. We have given a few instances of success in farming in the South. We could multiply them by the thousand, and they are increasing annually. The South may never rival Ohio in her specialties, but in her own crops the South is forging to the front, and has no reason to be ashamed of what she is doing against great odds. Starting, as we said, from the bottom, the bare land, she is making homes and blotting out the wastes of war and the deviltry of the carpet baggers. You are doing good farming and dairying in Ohio, and the Southern writers and editors are not inclined to dictate to you in regard to your rotation, but if you think that you have learned all there is to know in regard to agriculture, and that even a man born in the South cannot help you, we pity you, for a man in that condition is not likely to improve fast. The South has a great deal to learn from the North, and even an Ohio farmer may possibly learn more than he already knows, even though a Southern born man is his tutor.

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The Green Pea Fly.

Some of the papers are already talking about the prospective ravages of the green aphis, which for years past has bothered the truck growers in various sections. Prevention is always better than an attempt to cure after the insect arrives. Several years ago we were summoned to come to the pea fields of Eastern North Carolina, as the insects were eating the peas up. We visited one large pea field where there were millions on every plant. Our advice to the growers was to do nothing then, for any attempt to destroy them would cost more than the crop was worth. And yet there are still some entomologists who soberly advise the truckers to go through the fields and brush the aphides off on the ground. Far better not let them get there. Our advice to the North Carolina growers was to use tobacco stems freely in manuring the peas the next season, and as soon as the peas were up to dust them over with tobacco dust from the smoking tobacco factories, as the stems and the dust could both be had there at low prices. The following spring they took our advice. One man wrote that a few aphides made their appearance, but soon gave it up, and there has been no trouble there since. Tobacco in some form or other is the sovereign remedy for all the aphis tribe, generally known as plant lice, no matter what their color or what plant they are on, and it is far better to get the tobacco there ahead of the lice than to wait till they are in possession and then attempt to destroy them. Repelling them is a great deal easier than driving them away after they once get there.

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The leaders in agricultural progress, as in other professions, are the men who read and study. If you would be a leader and not a mere follower in the ruts made by your ancestors you must be a book farmer, and the winter is the time when study can best be done. The man who studies in winter is best prepared to take the lead in improved farming in the spring. He has learned to give a reason for every hope that is in him.

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The Cream of the Bulletins.

New Hampshire College of Agriculture Experiment Station, Durham, N. H., Bulletin 94. Remedies for Fleas. Albert F. Conradi.

Some of our readers have lately been inquiring how to get rid of fleas. Hence we are glad to have an opportunity to give an abstract from this bulletin which may be of help to those who are so troubled. The flea which so annoys some is the dog flea. As the bulletin well says, their legs are fitted for walking and jumping, and we would say especially for jumping. Fleas are best known in the adult state, their larvæ and pupæ being minute organisms hidden among the hairs of the dog or in bedding or old clothes where they gnaw the rubbish about them. The ideal breeding place for fleas is the hair of domestic animals, particularly the house pet animals. One flea will bite so often and so rapidly that a dog will impress one with the notion that he is infested by a flock. Fleas make their appearance with different degrees of severity during the course of years, depending on the conditions in the dwelling houses and the number of fur-bearing pets kept. The writer of the bulletin says that he once lived in a village, one section of which was badly infested by fleas. The following year some of these badly infested houses were free from fleas, though no measures for their extermination had been adopted. On inquiry it was found that the cats and dogs had been destroyed some time before spring housecleaning. Various remedies for fleas have been devised. Rugs in place of tacked-down carpets are recommended as furnishing less breeding place. Keep rooms well aired, clean and free from rubbish. Persian insect powder, rubbed into the hair of the animals, it is stated, may serve as a preventive, but has usually been unsatisfactory. We are of the opinion that where this has been used fresh it is perfectly effective, but is commonly sold quite stale, and then is comparatively worthless. This insect powder is merely the powdered flowers of pyrethrum roseum, and is harmless to mankind. If there is but one flea, handpicking may do if you can catch him, but hand picking is out of the question where the little imps abound. The most satisfactory remedy, the author says, is creolin. This, in a diluted form, has been used for years as a disinfectant, but has not been generally recommended for fleas. The time to combat the flea is in its infancy. The presence of the flea can be well detected when the dogs begin to scratch and bite themselves. As it is among the hair that they breed, the treatment must be made there. The animal should be thoroughly washed with creolin and water. This will destroy both adults and larvæ and stop the breeding. For dogs a 3 per cent. solution should be used, and for cats a 2 per cent. solution. The commercial creolin may be bought at drug stores as a blackish brown liquid, costing about 25 cents a pint. When this is mixed with water it makes a milky-white solution. The proper mixture can be made by means of a graduated glass cylinder. Where this is not available, a 3 per cent. mixture can be made by adding 4 teaspoonfuls to a quart of water, or four tablespoonfuls to a gallon of water. To make a 2 per cent. solution add two tablespoonfuls to a gallon of water. Shake well and it is ready for use. The liquid can be applied with hands or brush, or by having enough to completely submerge the animal. This is the easiest way and should be continued till the fur is well saturated. This will kill all the fleas, and the animal will need no further washing in water. Creolin is not poisonous, but the solutions need not be made any stronger than advised. It should never be used pure, internally. It cleans the animal not only from fleas, but cleans the fur, making it soft and smooth, and heals the irritations the fleas have made in the skin. Creolin is also useful as a deodorizer. It was found very effective when used on a dog that had killed a skunk. Of course where the premises are infested with fleas the animals will soon get infested again and the treatment must be repeated. The places in the house where the fleas breed are under carpets, rugs and mats, and books or papers piled on the floor. Hence loose rugs are best, as they can be taken out and beaten frequently. The floors should be scrubbed with a 5 per cent. solution of creolin. The bedding in the dog kennels, and places where animals stay, should be well saturated with a 5 per cent. solution of creolin.

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S. E. Cor. Market & 18th Sts., Philadelphia.
HENRY HARRIS, Business Manager.
Special Advertising Representative
S. E. Leith, New York.

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10-Cent Trial Subscriptions.

The Editor of the P. F. renews the offer he made a year ago to send the P. F. for the remainder of the year for only 10 cents. These trial subscriptions must be sent in between May 1st and 10th, must be of persons who have never taken the P. F., and sent through present subscribers. The latter are requested to send in clubs, as many names as they please, of farmers in their neighborhood who have not taken the P. F. The offer will positively be withdrawn May 10th and will not be renewed. The idea is to make these trial subscribers regular readers of our paper from year to year. If any such person wishes to subscribe for a year or more now, we will send the P. F. to January 1, 1905, for a dollar. We hope our friends will see that every farmer whom they know and who does not take the P. F., has this opportunity presented to him. The P. F. from now to January 1, 1904, for only 10 cents. The P. F. from now until January 1, 1905, for only one dollar. We enclose a subscription blank in this week's paper for our friends who will help us in this effort to increase the circulation of the paper. These 10-cent subscriptions are sent at an absolute present loss. Ten thousand such subscriptions would mean a loss of $5,000, but the management is willing to pay handsomely for the purpose of increasing the circulation and influence of the P. F.

COMMERCIAL

Philadelphia, April 18, 1903.

WHEAT.—			
No. 2, red	79	@	79½
No. 2, Penna. and Del.	80	@	80½
CORN.—			
No. 2	49	@	49¼
No. 3	43	@	43¼
OATS.—			
No. 2, white natural	40		
No. 2, white clipped	40	@	40½
BUTTER.—			
Western creamery, extra	27½	@	28
Western creamery, firsts	26	@	27
Western creamery, seconds	23	@	24
Prints, nearby, extra	29	@	30
Prints, nearby, firsts	28		
CHEESE.—			
N. Y., f. c., small—			
Fall made, fancy	14¼	@	14½
Good to prime	13½	@	14
Fall made, fancy, large	14	@	14¼
Good to prime	13¼	@	13¾
State, part skims, prime	10	@	12
LIVE POULTRY.—			
Fowls, hens, per lb.	14	@	14½
Winter chickens, per lb.	16	@	20
DRESSED POULTRY.—			
Fresh killed fowls, choice	14½		
Fresh killed fowls, average	13½	@	14
Nearby chickens, choice	16		
Nearby chickens, average	14	@	15
EGGS.—			
Nearby fresh, at mark	14½	@	15
Western, choice, at mark	15		
GREEN FRUITS.—			
Cranberries, Cape Cod, bbl.	12.00	@	14.00
Jersey, choice, per crate	3.00	@	4.00
Oranges, Cal., navels, boxes	2.25	@	3.00
do do seedlings	1.75	@	2.50
Strawberries, So., per quart	8	@	15
VEGETABLES.—			
Asparagus, So., bunch	12	@	35
Beans, So., per crate	3.00	@	3.25
Beets, Fla., per 100 bun.	2.50	@	3.00
Cabbage, Danish, per ton	5.00	@	8.00
Cabbage, So., per bbl. crate	1.25	@	1.75
Cucumbers, Fla., per crate	3.00	@	4.00
Eggplant, Fla., per box	2.00	@	2.50
Lettuce, So., per ½-bbl. bas.	1.00	@	1.75
Onions, yellow, per bu.	50	@	60
Peas, So., per ½-bbl. basket	1.50	@	2.00
Radishes, N. C., 100 bun.	50	@	75
Spinach, So., per bbl.	1.00	@	1.25
Tomatoes, Florida, crate	1.50	@	3.00
POTATOES.—			
White, Pa., per bu.	65	@	68
do New York, per bu.	65	@	68
do Western, per bu.	50	@	55
BEANS AND PEAS.—			
Marrows, H. P., per bu.	2.55		
Scotch peas, per bu.	1.75	@	1.80
Green peas, per bu.	1.65	@	1.70
HAY AND STRAW.—			
Timothy, No. Pa., choice, l'g.	21.00	@	21.50
do Western	20.50	@	21.00
Timothy, mixed	15.00	@	17.50
Straw, straight rye	16.50	@	17.50
Wheat	10.50	@	12.00
Oat	9.50	@	11.00
FEED.—			
Bran, bulk, winter, per ton	19.50	@	20.00
Bran, sacked, spring	19.50	@	20.00
COTTON.—			
Cotton, per cwt.	10.50		

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New York, April 18, 1903.

WHEAT.—			
No. 2, red	81¼	@	82¾
No. 1, Northern Duluth	87¼	@	88⅝
CORN.—			
No. 2	58		
No. 2 white and yellow	52		
OATS.—			
No. 2, white	39½		
No. 2, mixed	38		
HAY.—			
Prime, large bales, 100 lbs.	95	@	1.05
BUTTER.			
Creamery, extra	27		
Creamery, firsts	25	@	26
State dairy, tubs, fancy	26		
Packing stock, solid packed	12	@	14
Rolls, com. to prime	12	@	14
CHEESE.—			
State, f. c., small—			
Fall made, colored, fancy	15		
White, fancy	14¾		
Colored, choice	14½	@	14¾
White, choice	14¼	@	14½
State f. c., large—			
Fall made, colored, fancy	14½	@	14¾
White, fancy	14¼	@	14½
State, light skims—			
Fall made, choice	12¾	@	13
Winter made, choice	11½		
LIVE POULTRY.—			
Fowls, selected, heavy, lb.	14		
Roosters, young, per lb.	13½		
Turkeys, per lb.	15		
Ducks, average, per pair	70	@	1.00
Geese, average, per pair	90	@	1.37
DRESSED POULTRY.—			
Turkeys, young hens & toms	13	@	16
Chickens, Phila. broilers, lb.	34	@	40
State & Penna. broilers, lb.	25	@	30
Fowls, West., scalded, per lb.	12½	@	13½
Spring ducks, nearby, per lb.	28	@	30
Squabs, large, white, doz.	2.75	@	3.00
Dark, per doz.	1.50	@	1.75
EGGS.—			
QUOTATIONS AT MARK.			
State, Pa. and nearby—			
Fresh gathered, firsts	14½	@	14¾
Western—			
Fresh gathered, firsts	14½	@	14¾
Ky., fresh gathered, firsts	14½		
VEGETABLES.—			
Asparagus, doz bunches	1.75	@	5.50
Beets, small crate	75		
Carrots, old, per bag	50	@	75
New, per 100	1.50	@	2.00
Celery, Fla. original, case	3.00	@	3.50
Eggplants, per crate	1.50	@	2.50

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AGRICULTURAL FERTILIZERS.

For explanation of market terms see the P. F. of March 14, 1903.

AMMONIATES.			
Nitrate of soda, per cwt.	2.05	@	2.15
Manure salt, bulk, 20 p. c. per unit, O. P., basis 90 p. c.	61		
Sulphate ammonia, per cwt.	3.15	@	3.30
Tankage, per unit ammonia	2.15	@	2.25
Dried blood, N.Y., low grade	2.65	@	2.70
do West., high grade, fine ground	2.72½	@	2.75
Cottonseed meal, ton, c. i. f. N. Y.	27.00	@	28.00
Fish scrap at N. Y.	2.55 and 10		
PHOSPHATES.			
Acid phos., 12-16 p. c., unit	60	@	67½
Bone black, spent, per ton	18.00	@	19.00
Ground bone, per ton	12.00	@	23.00
Steamed, f. o. b., Chicago	19.00		
Raw, f. o. b., Chicago	23.00		
POTASH.			
Muriate potash, 80 p. c., future shipment	1.83	@	1.95
Manure salt, high grade (90 to 95 p.c. sulphate potash) ship., basis 48 p. c.	2.11	@	2.20
Manure salt, double (48 to 40 p. c., less than 2½ p.c. chlorine), per lb.	1.12	@	1.24

Fertilizer Chemicals for Home Mixing
GENUINE
PERUVIAN GUANO
Analyzing 4 to 5 p.c. Ammonia, 18 to 20 p.c. Phosphoric Acid, 4 p.c. Potash.
Price, $80.00 per ton, F.O.B., New York, Baltimore, Md. or Charleston, S. C.
NITRATE OF SODA
Nitrate, Sulphate and Muriate of Potash, Acid Phosphate, etc. For prices write to
E. MORTIMER & CO., 17 William St., New York.

98½ POINTS
The Highest Score at any Dairymen's Meeting
this season received by butter made from cream separated by U. S. Separators. This butter was exhibited at the Vt. Dairymen's Assn., Rutland, Jan. 6-8, 1903, where it won
GRAND SWEEPSTAKES AND GOLD MEDAL.

The U. S. Wins in Nebraska
The Greatest Cream Gathering State in the Union.
At the State Dairymen's Meeting, Lincoln, Jan. 22-23, butter made from Cream Separated by U. S. Separators received
The Highest Score of All.

A GREAT COMBINATION!
GOOD COWS AND A U.S. SEPARATOR FILL THE FARMER'S POCKETS WITH MONEY!
The U. S. Separator gets all the cream from the milk,
The cream makes the butter,
The skim-milk makes the calf,
All bring in the cash.
301
Send for Catalogue
VERMONT FARM MACHINE CO., Bellows Falls, Vt.

The U. S. Victorious in New York
Greatest Dairy State in the East.
At the State Dairymen's Convention, Jamestown, Dec. 9-13, 1903, butter made by U. S. Separators received
98 Points—The Highest Score.

The U. S. Away Ahead in Maine
At the State Dairymen's Assn., Waterville, Dec. 3-5, 1902.
Highest Score, Second Highest and Third Highest
were all made from cream separated by U. S. Separators, and included the
Highest in both the Dairy and Creamery Classes.

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Editorial Chat.

Would say to the sister who asks concerning the pleasures of "the young people of the Confederacy," that we do not understand what it is she wants to know. Living South herself, she must have a chance to gain the knowledge she desires by observation.

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Lena C. Davis, Northwood, N. H., writes: Mrs. Melville: Will you kindly publish a request for me? I would like to obtain information concerning an uncle who went to Wisconsin long years ago; just when I cannot tell. His name is Charles Bancroft Lewis, and he was a nephew of Rev. Isaac Bancroft. His sister, Jennie Lewis Crowinshield, is still living, at present in Spofford, N. H., and a brother, George W. Lewis, in Hinsdale, N. H. I am in Northwood, N. H., address, Mrs. George S. Davis. My name was Lena Crowinshield before marriage. To any one of these addresses any word concerning him, whether living or not, would be gratefully received.

In the Kitchen.

Mrs. I. T. Copley, Kidder, Okla., writes: I send a few items, hoping they may benefit some of the readers of the H. C.

LEMON CRACKERS.—Two and a half cups of sugar, one cup shortening, two eggs, one pint sweet milk, five cents' worth of ammonia, five cents' worth lemon essence. Powder the ammonia and soak in milk over night. Work the dough stiff. Prick the crackers with a fork. Cut them with a knife any size.

SUET PUDDING. — One cup suet, chopped fine, one cup buttermilk, one egg, one cup raisins, one cup sugar, one teaspoonful of soda. Mix as for a stir cake. Steam one hour. Dressing.—Over a half cup butter pour boiling water. Sweeten to taste; flavor with vanilla. Set back on the stove to steep. Try this, it is delicious.

Buy your staple groceries at wholesale; also staple articles in dry goods. Purchase muslin and toweling by the bolt, and thread by the dozen. I find it a great saving and one can buy a better quality of goods for less money. Every mother should take advantage of this; also those who have small children should buy their calico by the bundle. You can get from 2 to 5-yard lengths of good remnants, put up in bundles to sell, at about half price, so many yards in a bundle, the price being marked on one side. These calicoes can be made up neatly for the little ones to good advantage, and one can have plenty of good aprons made for the kitchen, which are always in demand. Prepare a neat little box for your kitchen aprons, any size you want, according to the number of aprons you have; you will find it very handy. Small white aprons are very neat and nice to use waiting on the table. Also have a towel box in pantry, where you can reach a clean towel in a moment. It will save mothers many a weary step. In washing one can save time and labor by using some prepared washing fluid. Soak the clothes about one-half hour before washing. To brighten tinware wash it in hot soap suds to get it clean, then take a piece of soft leather, wrap it around the hand and rub it as you would to polish it. Will be very bright. Later I will send more recipes.

The Father's Duty to His Children.

MRS ADA H. PARKER.

We hear a great deal at the present time about the duties and responsibilities of motherhood, and mothers have been so praised or blamed before the public, that it is no wonder that the father begins to feel that when he has seen to it that his children are clothed, fed and have a comfortable home, he has fulfilled all his parental obligations, and that upon the mother depends the whole duty of training the children to useful and honorable lives. We have mothers' congresses, clubs and meetings for child-study, but never a congress, a club or convention for the purpose of impressing on the minds of the fathers that they have responsibilities and duties which should not be ignored. The care and training of young children must necessarily rest upon the mother. She has many burdens to bear which the father cannot share, except by his love and sympathy. But the husband and father should see that all the care, anxiety and responsibility of training the children is not put upon the shoulders of the mother. He should consider the care and training of the family as his most important duty and should impress on the young minds that he is not only the father to whom they owe respect and obedience, but that he is their friend, who loves them and is always interested in their welfare. A father should have his children's love and confidence and make them understand that he is interested in their future, and is in sympathy with all that is connected with their happiness. If he finds some peculiar traits in their character, let him institute a self examination to see if the laws of heredity do not further increase his responsibility. A son may love his mother, but he nearly always follows the example, and walks in the footsteps of his father. If a father sets before his children an example of honesty, integrity, gentleness and courtesy a pure life and an honorable and upright manhood, his sons will be very likely to follow his example and be a staff to his old age and a comfort to his declining years. The mother should not be expected to represent all the Christian principles of the family. The father, also, should go to church with his children, and instill into their young minds a reverence and love for Christianity in the highest sense of the word. He should also be mindful of the welfare of his daughters, for there are times when a father's counsel and advice will have more weight with the daughter than that of her mother, especially if he has her confidence and respect. I believe that the frequent neglect of paternal duty is more often due to carelessness and an implicit confidence in the ability of the mother, than to a lack of interest in the children, or a desire to shirk the additional burden. Fathers will do well to remember that they are not only shirking a sacred obligation, but that they are missing their share of the joy and soul-satisfying love and affection of domestic life, when they, for any reason, fail to assume their share of the duties and responsibilities of training their children to a useful and honorable manhood and womanhood.

Athens Co. O.

Spring Care of Horses.

I will try and give some suggestions that will be helpful in spring and at all times. First, with reference to watering. Teach the horses to drink before feeding them in the morning. This will help to keep the bowels free and in good condition. Give good, clean water from well, spring or stream. Never allow foul surface water to enter your stock well or cistern. Make a tight cover for your tank or watering trough. This will serve to keep the lambs and chickens out, and keep the water cool and pure. You like a clean drinking dish; why not let faithful old Tom and Bill have one, too? Give them an opportunity to drink oftener than three times a day, especially in hot weather. There is little danger from moderate drinking even when the animal is quite warm.

After watering in the morning, groom outside the stall, so germs and dirt will not cover the trough and manger; then harness. Twenty minutes or half an hour after watering, feed grain and hay. The water has thus had some time to pass from the stomach. I used to think that a horse would get more benefit from chewing whole grain than from ground feed, but have had to give up that idea from experience. I had now rather feed ground feed, even corn alone, if that is the only kind of grain I have, than whole feed. A horse will do better on enough smaller amount to more than pay for grinding. If you have little grain, be sure and grind it. If you have plenty, get it ground anyhow, for the animal's sake. Don't give too much roughness. The horse's stomach is adapted to a concentrated diet. Don't overfeed as the work increases. Let your roughness be free from dust.

Harden the teams to the work a little at a time. They feel good, and you do, too, and you are both apt to overdo, and they may be overworked before the hard work comes on. Teach your horses to roll at night, and see that they have an opportunity. You could hardly prevent my team from rolling as soon as the harness is removed, and they seem to enjoy it as much as their dinner. Be sure that the collars fit.

Water the first thing in the morning. Groom outside, and harness; then feed grain and hay. Use ground feed. Give pure water from a clean, covered trough. Always water before feeding, and at least once between times in hot weather. Let them roll at night. Use good fitting collars. Harden to the work gradually, and your team will stand by you faithfully. C. G. HOWELL.

Warren Co., Tenn.

* * * * * * * *

Unless a horse has proper winter care it will be difficult to give him proper spring care. One that has had to rough it out doors, with nothing better than the "leeward" side of a wire fence for shelter, and frosted grass for a living, with an occasional feed of corn for dessert, cannot be put in good condition for a spring's work, no matter what kind of care he receives after work begins. Keep your horse in a good, warm, dry, well bedded stable during the winter blasts and blizzards, and feed him a sufficient amount of nutritious food to keep him healthy and in good flesh and give him a thorough grooming each day. If you have light work for him to do, it will be all the better for the horse; if not, let him out an hour or two each day when the weather is fit, and he will stand the work much better when spring comes than if he had had no exercise during the winter. A horse that has stood idle for four or five months will have very soft muscles and will need the most careful usage for a few weeks. In fact, every horse should be used with a great deal of moderation for the first few weeks of spring. Better plow half the amount the first week and keep your team in good, thriving condition than to double the amount and injure them for the rest of the season, unless you enjoy holding the lines over a framework of bones better than I ever did. The first two weeks work of spring are the trying ones on a team. It is my experience and observation that if horses can be made to hold their own for the first two weeks, their muscles will have become so hardened by that time that they will be able to do double the work thereafter. Don't send them through for an hour or two until they become hot and sweaty, and then climb upon the fence for half an hour to let them cool off and get stiff; but let them stop a few minutes each round and then they won't get overheated and catch cold, and get all out of condition. After you have eaten your supper and done your chores, go to the stable and give your horses a thorough grooming; then give them a thorough bedding of clean, dry straw, evenly spread a foot deep, and then you can lie down on your own downy bed to pleasant dreams. This treatment thoroughly followed, with a gallon apiece of warm bran mash twice a week, will relieve your team of that old coat of hair by the time it is warm enough for them to do without it, and you will have a fat, sleek, glossy span that it will be a pleasure to work the rest of the season. "A righteous man is merciful to his beast." I confess that I rather enjoy holding the lines over a spirited team. A horse that is properly fed, groomed, watered and judiciously used, will rarely need a condition powder. The following rations, all of which a good farmer should raise, I have found to be most suitable for a horse either at work or play. Corn and oats, half and half, ground fine and fed dry, for grain, and bright, early cut and properly cured clover hay, with a sprinkling of about one-third timothy in it, and an occasional warm bran mash. Feed regularly, and increase the feed gradually when you commence your spring work, until you have reached the desired amount. Again I would say groom your horses each evening after a hard day's work, and give them plenty of good, clean bedding and don't let the mud stay on their legs until you develop a case of scratches or grease heel. W. L. HOOVER.

Galena, Ohio.

* * * * * * * * *

As my horses are always fat and strong in the spring, and ready for the hard work, I will tell you how I feed. I soak my hay the year around, tramp it in a box with a hole in the bottom, to let any surplus water drain off. Then pour on several bucketfuls of water and let the hay stand from twelve to twenty-four hours; by this time it is as wet and heavy as it was when standing in the field in bloom. I prefer red clover hay; it is softer and better than timothy. In the spring as soon as the weather begins to get warm, I commence to soak the corn the same length of time before feeding it. By feeding this way my horses keep stronger on half a gallon of corn at a feed than one fed a gallon with dry hay, so the corn I save more than pays for the extra trouble.

Christiansburg, Va. R. T. MONTAGUE.

Correspondence.

Mrs. Lina Hurni, Colusa, Cal., writes: It is such a long time since I took time to write to our dear Circle. Well as I live in this busy State of California, some of you readers may know how busy one usually is here, especially on a fruit farm. As I was reading Sister Wright's letter, I just went back about 10 years, to when we came to this country. I was a strong, healthy woman, with very little means, mother of three children, and not "spoiled like those American ladies," as I then thought, but, dear ones, I have since changed my ideas. I then thought it would be terrible to have husband help me, even to help me do heavy washing, oh, no! That was not his place. I even went so far as to help him everywhere on the farm. Often was I told by kind neighbors "You are killing yourself," but I was strong and wanted to help get rich. I used to say that whenever I was no more able to work I would want to die. Ah, no! We cannot always die. From weighing 167 pounds I weighed 97, and was not able to even dress myself for two years; but praise God, I learned some lessons, as also did my family. I will never forget the first washing my poor husband did. You would laugh if I were to tell you about it, and as he reads my letters I will say no more about it. But my sickness did wonders for us all. At first many a hard earned dollar went to the doctor. Second, it opened our eyes and made us more thoughtful all around. Now my boys are always willing to help me and I do not feel a bit ashamed to ask my husband to help me in the kitchen. It comes to be second nature for him to help. Think of how many steps a woman has to take. Ah, dear ones, I understand all about farm work and often I would willingly take hold of the plow. It is easy to just have the one work before you till dinner time and be called to your meals. We all like California very much. I think Colusa is a very good place; there is work from spring till late in the season for all those who want to work. Not long ago I visited our packing house here in Colusa. There are many ladies at work packing prunes. Some said they could make their $60 a month. I think that is good wages for a woman. We had a very cold winter; had the pleasure of seeing the snow fall for a whole day. It looked homelike. It is five years since we had the last snow. Now spring has begun; everything looks prosperous so far, and if we have no late frost we are all right. Wish I could invite some of you folks to a quilting. I do not know if I ever told you of the first quilting I ever went to. A neighbor sent me word to come to her quilting. I did not dare tell her I did not know what that was, but asked her boy. He explained what a quilt was. Now I have made several and intend to make a log cabin quilt. I am teaching a Sabbath School class of sixteen young girls. I will get some of their pieces and will have a fine souvenir from them. I dearly love my scholars, and pray the Lord that I may so live as to set them a worthy example, not only for this life, but for the next.

[Accompanying this letter was a box of violets and orange blossoms. Fragrant? You ought to have smelled them. They were not even wilted. A little while the family enjoyed them and then we thought we must not be selfish. Just across the street a dear little girl had undergone an operation for appendicitis the afternoon before. We said: "We will take them to Mabel." Quickly we crossed the street; but little Mabel had just fallen asleep, the sleep that knows no earthly waking. The piteous wail of father, mother, brothers and sister filled the rooms. Beside the bed stood the young physician, who had battled for days for her life, unwilling yet to believe that death had triumphed. It was a sad picture. On Mabel's face alone there was no signs of sorrow or pain. She had kissed them all goodby, distributed her little treasures and now she was at rest. Her sister put the blossoms from far-off California in water and their fragrance mingled with the sorrow laden air. The child was perhaps e'en then exclaiming over the wondrous bloom of the Evergreen Shore; anyway she is "Safe in the arms of Jesus." Thank you, Sister Hurni, for the flowers. We loved them doubly well because they came from near the home of dear Grandpa Cutler.—ED.]

Mrs. R. E. Merryman, Melrose, Fla., writes: Dear Mrs. Melville: Will you allow me room in the H. C to answer a few of the many questions that have showered upon me from all parts of the country since the publishing of my letter about Florida? I am fairly snowed under with letters, and although I shall answer every one as promised, I am sure many who have not written will be glad to read the information they desire in the H. C., without writing a letter for it. 1. Melrose is situated at the corner of four counties, Alachua (in which is the postoffice), Bradford, Clay and Putnam, and is on Lake Santa Fe. 2. The land is rolling, called high pine, but a few miles out is flat woods and hammock. Sandy loam. 3. Some crops are fertilized, and others not. 4. The rainy season is in the summer, when it is not unusual to have a shower every day. We have occasional showers, and soaking rains at other times. 5. For water we have wells or springs for house use, lakes and running streams for stock. We dig or drive wells from 20 to 40 feet. Water is good. Not so cold as in the North, but as cold as is necessary in this climate. 6. The timber is mostly pine and oak at Melrose, but cypress, hickory, sweet gum, magnolia and many other kinds grow nearby. The pines are very large. It is the long leaf or yellow pine. 7. Of course all the kinds of fruit that grow in the North do not do well here any more than oranges, lemons, guavas and bananas would do well up there. One cannot expect everything in one place. 8. Irish potatoes, sweet potatoes, corn, cow peas, sugar cane, white beans and many other Northern crops do well here, besides the many things that are raised only in the South. 9. Stock is kept on the range all the year and does well the most of the time. Sometimes they get poor before grass starts in the spring. 10. High pine land can be worked immediately after heavy rains, but flat woods and hammock requires a little time for the water to settle away. 11. Butter sells for 25 to 35 cents the year around, and eggs from 10 to 35 cents per dozen. 12. Raw land, a few miles from town, can be bought for $2.50 per acre. As it costs considerable to get it cleared, many prefer to pay $15 per acre for cleared and cultivated land. Homes with buildings, fruit, etc., are all prices, according to improvements, location, etc. 13. School privileges are good. 14. Melrose has four churches, seven stores, hotel, town hall, literary hall, many winter homes of wealthy Northerners and homes of those who stay here all the year. 15. The mercury gets pretty high in the summer, but there is always a breeze from gulf or ocean, which tempers the heat. Sunstroke is unknown here. No sultry days. Nights are cool. 16. I have lived in Maine, Iowa, Nebraska, North Dakota, Illinois and Kentucky before coming to Florida thirteen years ago, and I consider the climate of Florida the most comfortable of all. 17. Flies and mosquitoes are no worse here than North. No malaria at Melrose. 18. Yes, there are snakes here, but one has to go to the sensational newspapers to hear of their biting people. They attend to their own business if not interfered with. 19. It is an excellent place for people with weak lungs. I know parties who came here 25 years ago almost dying with consumption, and they are still enjoying life. Those with weak lungs, but no consumption, grow well and strong here. Catarrh that had troubled people for many years is cured by the climate. 20. There are so many colored people to do common labor that the wages are low. Skilled labor, however, brings a good price. Brick masons get $3 to $4 per day; carpenters $2 to $3. 21. Land or homes can be bought on easy terms, but cash gets a better bargain. 22. Melrose is connected by steamer with the railroad at Waldo, and will soon have a railroad. I think this letter answers about all of the most important questions. I am willing to give more information if desired, to those who intend to come to Florida within a year, but I think this is quite sufficient for those who merely like to know about the country.

Mrs. May Porter, Castle Hill, Me., writes: Reading Mrs. Wright's letter in issue of Feb. 14th, aroused in me a strong desire to take Mrs Adams', and all other overworked farmers' wives, of straightened means, part. I think she is just right to have a rocking chair in the kitchen, and any other comfort she can lay her hands upon. In the kitchen most wives who do their own work, spend two-thirds of their time, and when the farmer is indoors he must spend the most of his there if he enjoys his wife's company. If the room is large enough, have a couch there for the tired husband to stretch himself upon while he waits for dinner to be served. It seems to me comfort and refinement are lacking in too many farmers' homes. For a few dollars spent now and then, many small changes may be made in a home which will be surprising to those who have never tried it. Some rainy day almost any man could make the frame for a couch. Make a mattress stuffed with straw, batting or anything handy. Cover with cretonne and have a bright pillow or two, and won't you enjoy it far more than the handsome couch in the parlor which is thought too nice for use? By all means have the water carried in by someone besides the busy housewife. Probably Mrs. Wright carries but little water herself, but has one of those little boys do it, and I have an idea she doesn't have to work so hard as Mrs. Adams, and that is one reason why she doesn't vote in favor of the rocking chair to rest her weary self in. Or else she is one of the women that thinks of nothing but work the whole day long; and the vision of the "almighty" dollar she may gain buoys up her strength until the time, which will surely come, when she will find her reserve strength all gone, and will realize too late that she is an old woman, while her husband is still in his prime. I think if I were at all an elderly woman, would wear the lace cap, but otherwise I would wear a pretty bow of some color to go nicely with my hair. Black if the hair is light As for the sunbonnet, it is fine in countries where the sun is hot, and they make nice sweeping caps; but don't wear them in the house all the time If real old, eschew them altogether is my advice, if you want to look well in your husband's eyes. I don't know about Mrs. Wright having a successor, but I would like to see that dishcloth after she washed off the polished stove. I have been wondering if she burns it up and gets a new one every time.

Youth's Parliament.

OUR BAND OF MERCY.

KATIE SELLERS.

How many today are keeping the promise
  You made 'bout the creatures so long ago,
And do you love and protect them yet,
  And are you forever so going to do?

Not only to the dumb did you make that vow,
  But also to the Great Father above;
And whatever you do to the least of these,
  He values it as a helping child's love.

In Heaven today is our record kept,
  Written there in a great long line,
And 'tis hanging down from the courts above,
  Toward the earth as a merciful sign.

Will we each work to fulfil our promise,
  And each strive for the land above?
And when we get there will we know each
    other—
  We of the Golden Rule Band of Love?

Fostoria, O.

Grace L. Colwell, Fair View Farm, Ark., writes: Dear Mrs. Melville: I saw letters from other children in the P. F., so I thought I would write one, too. My papa takes the P. F. and likes it very much, and I like to read the H. C. and young folks' letters very much. I live two miles west of Sherburne village and in sight of the Chenango River, which has overflowed its banks now. We have the R. F. D., and I think it is very nice to have our letters and papers brought right to the door. The school house is about a quarter of a mile from our house. I study eight branches: Arithmetic, grammar, writing, geography, physiology, drawing, spelling and reading. I am very fond of reading, and as I have no little brothers or sisters to play with, I read a great deal. Mamma takes the Christian Herald, and in the "The Sunday Hour with the Little Folks" the editor offers prizes for the best answers to the Bible questions and rebuses. I won the first prize of a silver watch, for answering the four questions in the issue of Dec. 31, 1902. I will write them and the answers, for some of the children may like to read them. 1. In connection with what great event did Moses appoint the first month of the Hebraic year? Ans.—The exodus from Egypt.—Ex. 12:2, 13:4. 2. What names or terms of description were applied to the Jewish New Year. Ans. —The Feast of Trumpets.—Lev. 23:24. 3. What was the chief feature of its celebration as described in the Old Testament? Ans.—The blowing of trumpets and offering the sacrifices. 4. What form of benediction was pronounced by Aaron and his sons on Israel's congregations? Ans.—The Lord bless thee and keep thee: The Lord make His face shine upon thee, and be gracious unto thee: The Lord lift up His countenance upon thee, and give thee peace.—Num. 6:24-26.

[A very nice letter for a nine-year-old. Come again, Gracie.—ED.]

Ellie Woods, Richmondville, Mich., writes: Dear Mrs. Melville: I have just been reading the letters in the Y. P. We have this paper for a long time. I go to school every day. I have only missed half a day since school started. Our teacher's name is John W. Kinna. He lives about three miles from here. We have sixty scholars' names on the roll. I take a great deal of interest in my studies. I study fourth reader, arithmetic, geography, grammar and spelling. I have about a quarter of a mile to go to school, and when it is warm weather I go home for my dinner. I go to church and Sunday School nearly every Sunday. My Sunday School teacher's name is Mrs. C. Fritch. Our pastor's name is Rev. E. Gordon; he lives five miles from here at a place called Forester. He has two other charges. He is holding revival meetings here now. I am 13 years of age. I weigh 108 pounds and am 5 feet 2 inches high. I can say all the books of the Bible from memory.

Louie McConnell, Fowlerville, N. Y., writes: Dear Mrs. Melville: I am a little boy 7 years old. I live on a farm. I have a little sister, Lillian, and two brothers, Robert and Clyde. Lillian and I help tend the poultry and mamma gives us the eggs every Saturday to sell, so you see we have a seventh interest in the poultry. I enclose my picture. This is all for this time. I will write again sometime if you would like to hear from me.

[Many thanks for the picture. Most certainly we want to hear from you again.—ED.]

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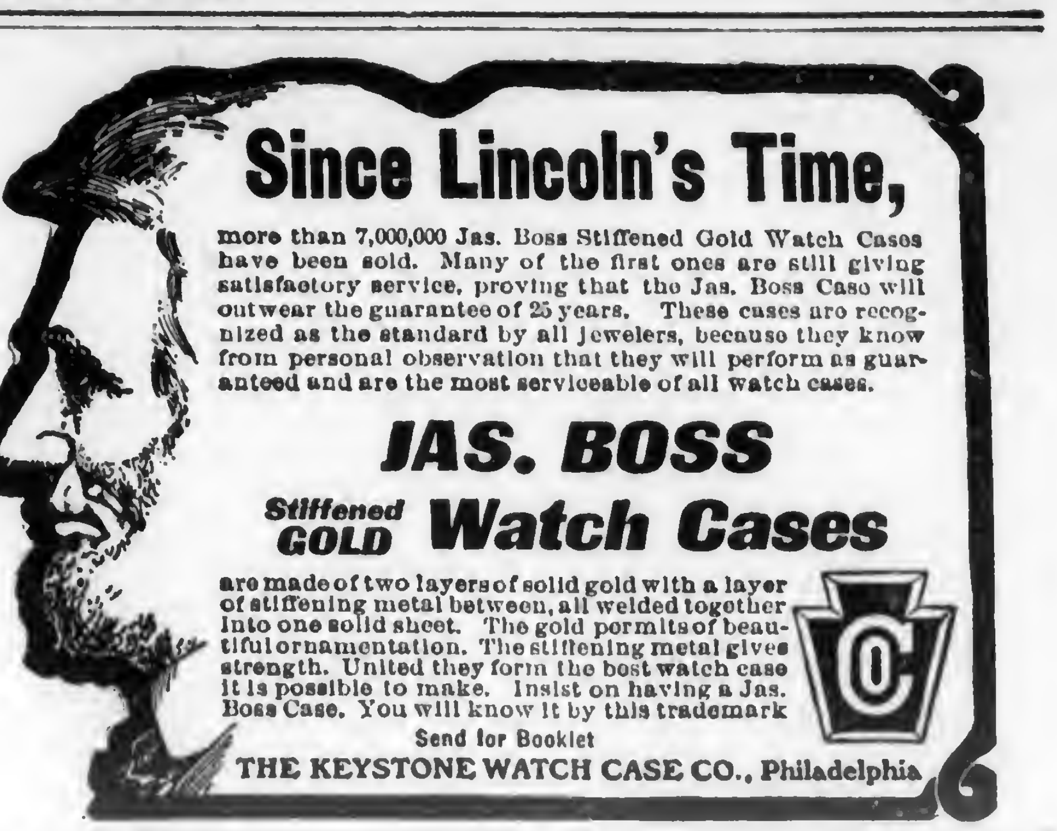

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Topic No. 571, May 9.—*Give us Your Experience with Alfalfa East of the Mississippi.*

Topic No. 572, May 16.—*Cherries for Market. Have You Found Them Profitable, and What are the Most Profitable Sorts?*

Topic No. 573, May 23.—*Give Your Experience with Portable Fruit Evaporators, and Tell How You Keep Worms Out of the Dried Fruit.*

Topic No. 574, May 30.—*How Did You Commence Farming? What Difficulties Did You Have? How Did You Overcome Them and What Success Have You Had in Improving Your Land and Yourself?*

Topic No. 575, June 6.—*Has the Manure Spreader Paid You on Your Farm for its Cost Over the Old Method of Hand Spreading? Can You Use it Profitably on Hilly Land?*

Topic No. 576, June 13.—*Where a Farm Can Only Afford to Have One Wagon Should it be a Low-Down One or Not?*

Topic No. 577, June 20.—*Have You Ever Grown Irish Potatoes Under Straw? If so Tell us How You Succeeded and How You Planted Them and When?*

Topic No. 578, June 27.—*Experience in Cheese Making on the Farm. How do You Make and Care and Keep it, and What Kind of Rennet do You Use?*

Topic No. 579, July 4.—*On What Crop Does the Farmyard Manure Pay You Best, and How do You Manage it?*

Topic No. 569.—What is Your Experience With Hired White Labor in the South as Compared With that of Negro?

Wm. Lea, Marietta, Ga.—We work from six to eight men regularly, who are hired by the month, most of whom are negroes. It has never been our good fortune to get a really first-rate hired laborer yet. A man that is all around more than any one thing you put him at, is hard to get. One that is pains-taking, giving close attention to all the details connected with farm work is hard to find. But we have some good men who are ready and willing and who have been with us a long time. Hired help are not to be blamed, since they have never been taught. They have never had to work with anything but a single mule hitched to a plow stock. Of course, in the South, they all know how to hoe, for chopping cotton is one of the important events of the crop season. We have had no trouble with hired labor, whit or black, in learning to use improved farming implements. Last fall I put a negro on a corn harvester, who had never before seen one, and he worked it successfully. We have had a few very good white men, but it has been our experience that sorry white help is the most provoking and wearisome of any. One of the greatest objections to white men is that they invariably want to offer advice, and if you send them to do a piece of work they want to do it as they think best and not as you have instructed them to do it. We have had better success in interesting the negro in the care of stock. The negro, with few exceptions, is careless, and has little notion of economy. But when he is a pleasant one, and contented, he is agreeable and is the happiest being on earth. Clothe and feed him well and work him hard and pay him promptly, and he will stay with you and do you good service. We are always prompt to pay, and never try to cheat the negro, but let him know his place, and we have never had any difficulty in getting all the best negro help in the community that we need. Taking it all in all in the South, our preference is for the negro. Never had any trouble in discharging a negro, but with a white man you are certain to have trouble. We hope to see, in the near future, a great improvement in the efficiency of the farm labor of the South, and better wages for them.

W. B. Yarbrough, Camden, Ark.—From several years experience with hired labor in this southern section, I feel safe in saying that the negro labor is much more profitable than white. This fast-developing South, with its many different occupations, calls for no few of the enterprising young men, leaving barely enough energetic young men to financier the farms. This leaves an undesirable class of tough white men for hirelings. Even this undesirable material wants $2.50 per month more for their work than the negro does, and young white men are a great deal of trouble at times. They require a nicely furnished room and a horse to drive on Sundays and any other time they deem necessary. While you can hire strong young negroes for $2.50 per month less than the white, and get, as a rule, good hands and stronger. You can give them the heavy labor and they take it as their part, while the white man will complain more or less. In fact the negro is more commandable. If at any time he wants a horse or anything else and you refuse him, he never thinks anything about it, but goes right ahead. The white hand has to be waited on on Sundays, same as week days, while the negro is away, except when needed. All that is necessary is to let the negro hand know what hour to come to his meals, go to work and quit, and exact the same of him. Of course, they have to be made to know their place, but this is not hard to do.

R. L. Goodwin, Fort Pierce, Fla.—When I employ a laboring man I want one who will look after my interests as though they were his own. Negroes make good laborers, but do not interest themselves in their tasks as white men do. They work willingly and uncomplainingly, but with little judgment, and have little ambition to better themselves. The negro will work harder under the stimulus of praise. In a choice between the two I would prefer the white man, as he uses more judgment and has ambition to better his condition, and is more cleanly in his habits. Where it is convenient to have two I have found that a white man and a negro make a good team. The white man will not let a negro do more work than he does, and the negro does not want to be left behind. Here, white labor is scarce and negroes plentiful, and I find that my neighbors share my opinion, as the white men are spoken for months in advance of the pineapple season.

J. A. Richards, Louisville, Ala.—There are a few white men who hire out here. With the low wages for farm hands they prefer to rent if they cannot get places as farmers or foremen. What white labor there is commands better wages than negro labor and is much more reliable, though negroes can stand heat better and can do heavier work than whites. Farm labor is getting to be a serious matter here. Many of the negroes have left the farms, and the majority of those who have not left can hardly be depended upon to gather the crop they help to make.

G. Camerer, Madison, Ind.—I have lived in the South for years, and hired white and black laborers. There were, and still are, few Northern laborers to hire, as those who go South generally buy farms. One will then have to hire Southern white labor, and I pity the man who has to do so. They are a shiftless lot of "white trash," as the negroes call them, perfectly unreliable and almost worthless. Work a few days and get money for whiskey and provisions and then quit you generally in a pinch. If they can, and you do not know the ropes, they will draw money ahead on the plea of having to buy provisions, and that is the last of them. For the South, the darkey seems to be especially adapted, like the mule, and if you know how to manage him properly you can get more and better work out of him than from the common white laborer there. The Southern white laborer seems to think that you should feel under obligation to him for working for you. For the South give me the darkey, and the blacker the better. None of your educated "yaller" negroes for me. They are used to working under a boss, and of course they do not bother with thinking for you. You have to do that, and if you do that, all right. If you cannot, hire no one, but do it yourself.

Mrs. A. A. Watkins, Manson, N. C.—For thirty-five years I have had large experience with hirelings, and all things considered, we prefer "the brother in black" every time. It is possible that in other localities conditions may be different, but here a white man that will hire as a farm laborer is socially, morally and financially a wreck, and farmers, as a rule, had rather have no hand at all than a profane, smoking, drinking character domiciled in the bosom of his family, as a white hireling must be. In case the man has a family they are equally as objectionable as near neighbors, and may keep the hand waiting hours for his meals. Then he works when he feels like it and stops when he pleases. If the farmer gently remonstrates with him for a neglected duty, he quits in the busiest season, and as he invariably keeps ahead of his wages, there is no redress. In the case of the negro, if he has a family, he gets his rations Saturday and is no more trouble. If he is single he eats his breakfast by the kitchen fire, and takes his dinner and supper in the nearest cabin. In summer he dines under the trees and takes a nap till the bell rings at two o'clock. Trustworthy? Why certainly not; but just as much so as the white hand and much less trouble. The negro works just as well as the white hand. With us, both have to be nursed all the time or we get left. Under the most favorable circumstances it does not pay us to employ white men to work on the farm.

E. W. Radeke, Welsh, La.—In 1901, having a large rice crop, we decided that we would employ the floating white labor (hoboes), and not have any negroes. In two days they were trying to run things, and, in fact, when the sun was still 15 minutes high in October, they would quit work, no matter that they were getting $1.50 per day and board. As soon as they had worked three or four days they would all quit and we had to get another lot. In 1902 I took care of a man's crop and had whites and negroes. Tried to work them apart as much as possible and giving them separate quarters, as all do here. When I found a negro that was not doing his work, I got after him. They are poor labor at best, and will always slight their work. They think that a mule is not doing enough unless they are whipping him all the time. They generally want to lay off Saturday afternoons, get paid off and promise to come back Sunday. Ten played that trick and one kept his promise. The white labor was more steady than those I had the year before. When one tried to run things I told him I would take care of that. They were not so ready to take a team as the negro, but took better care of them and could be depended on better. I have been in Louisiana for 13 years, and have not seen more than a dozen negroes who could be depended upon as all around men. The negro will try to do any kind of work whether he knows anything about it or not. In running a binder they have no more judgment than a wooden man. I shall keep white labor unless they get too poor, and shall not hire any more negroes than I can help. Treat a good white man right and you can generallly get along well.

[Louisiana negroes must be a poor lot. Better get a Southern man to help you manage them.—ED.]

R. T. DeBerry, Humboldt, Tenn.—I prefer the negro labor to such white labor as we get here in Tennessee. If I could get good white men who were conscientious in their work I would prefer them, but the class of white men here who hire out on the farm are not much above the more intelligent negroes, but they require many concessions that we are not obliged to make to the negroes. Where two or more hands are hired I find the negro more tractable than the white man, for the negro expects to be told every turn to take, while the white man is inclined to want to do as he thinks best, regardless of instructions. If two white men are employed, each thinks that he ought to boss the work, and this leads to contentions. Negro farm hands, as a rule, work fairly well under anyone whom they know has instructions from headquarters, and they stand more rough work than white help, though a shrewd white man will do the same work with less physical exertion than the negro.

Jno. Jellicorse, Dows, Tenn.—White labor is always the best. The only trouble is when a good white man has gotten a little ahead he wants to start out for himself. This is as it should be. Have you ever noticed that the negro, when he goes North, never goes to the farms, but always to the cities? It is the same here in the South. They want to live in bunches. There is little room for the negro now the old ones are dying out, on grain and stock farms. There were once 100 on this place; now there are none, and it is the same all around. White men are pushing them out and taking their places. North and east of me for very many miles, they won't let a negro stay, and this area gradually increases. What place he will take further south in the improved farming of the future is hard to say, but I believe that as the white population increases they will push him out of the way. The negro question will not be settled by politicians or theorists or by making black preachers or school teachers, but will depend on the negro making himself a necessary part of our civilization. Booker Washington sees this, but he is only doing a minute portion of what was formerly done for the negro on thousands of farms all over the South. Never in the history of the world have two races so different as the Caucasian and the Ethiopian tried to live side by side on equal terms. The lion may lie down with the lamb, but he has not done it yet. The negro has lost the friendship of the Southern women now that a new generation has sprung up; instead of the old confidence fear takes its place, which is bad for the black man. The negro has done much to hurt the white labor where they are side by side. Both get the same wages, and the white man seeing the negro slight his work, does the same, and seeing him rough with stock, copies his way. The more so as much of the white labor is young. No white woman will compete with the negro wenches for work. Where there are no negroes white girls hire out, but never when they come in contact with each other. [You are in too cold a section to find the negro at his best. In fact, it would seem that the negro in the Mississippi Valley is a bad lot.—ED.]

W. A. Sanders, Danielsville, Ga.—The Anglo-Saxon race is superior to other races, and, of course, to the African, the lowest race. In the South it is very difficult to procure an intelligent grade of white labor to work on the farm. But when they can be found they are much superior and more satisfactory than the negro, doing a better grade of work, and with more certainty and reliability. But give me a negro in preference to a "no account" white man. The labor question is a problem in the South as well as in the coal fields and other parts of the North. It is very hard to change our farming in the South because of the negro labor. They cannot be easily nor quickly educated to a different way of doing things. They want to do the same thing in the same way always. To be able to work a negro you must know him, which knowledge can only be had by being brought up in direct contact with him. Yet they have many good qualities. They are easily controlled, can live well on much less than white men, and, in a body, never go out on a strike. But with all their good qualities their labor is not near equal to good, intelligent white labor, nor is it so pleasant to have them in your employ. The Southern white man is the only true friend the negro has, and those who have not lived among them have no correct idea of what we in the South have done for them. This is a big question. It affects our whole Southern industry, and what the final outcome shall be I believe no mortal man can foretell.

A. J. Umholtz, Tum, Ark.—When a boy and young man I worked for farmers, and since I have hired help my experience has been that if you treat the hired help as you wish to be treated under the same circumstances you will have no trouble with them, and will get their best service. I always pay good wages, and if a boy does as much work as a man I pay him a man's wages. I treat them as my own family and will not hire help which I cannot treat in this way. I will not hire anyone who uses bad language before my children, smokes or spits tobacco juice on the floor. I have never had any difficulty in getting all the help I need. In fruit gathering time more than I need offer their services. My wife will not have a hired girl whom she cannot treat as her own daughter, for she remembers how she was treated when a girl. When I was a young man I would not work more than two or three days for a man where I was not treated as a member of the family, or as a nice, respectable young man should be treated. And afterwards when I visited those for whom I had worked I was received and treated in the very best manner. Hire good, respectable workers and treat them well as you would wish to be treated, and no matter what their color or condition is you will receive good labor.

[Our friend evidently has had no experience with negro farm hands.—ED.]

SUMMARY.

As several of our friends have said, it is a very difficult matter to get white farm hands in the South who are worth more, or as much as the negro. And it is very hard for a Northern man to get to understand the negro and work him successfully. We, who have been accustomed to the negro all our lives, fully realize that the negro is *the farm hand* of the South, and probably always will be. Years ago, in Northern Maryland, we worked white men for six years. They were a better class than the ordinary farm hand, skilled gardeners. We fed them at our table, but they had their sleeping rooms elsewhere and attended to their own rooms. It may be pleasant for some to talk about treating a man as a member of one's family, but the men we would care to treat in this way are seldom found working for farm or garden wages, and though we have had some very good white men in our employ, we never yet had one that we cared to take into our family. In fact, after our experience in Maryland, we determined never again to feed a hand at our table, and hence have not since employed any white men who would wish to be taken into the family. One's family is his own, and no matter how good a hand may be he is seldom the associate you wish in the house. Then, too, a man has no right to make his wife keep a boarding house for a lot of rough men, no matter how good hands they may be. If we hire a man to work for us and pay him fair wages the contract ends right there. We are not hiring associates for our family, nor boarders for our wife to feed. Right there is the great advantage of the negro labor in the South. Pay the negro fair wages and pay him promptly and he will work faithfully for you. We never hire any to be fed in the house, but pay them wages enough to enable them to buy their own rations, which they can eat by the kitchen fire in cold weather, or outdoors in warm. All we ask of them is a fair day's work for fair pay paid every week, and we can always get twice as many as we need. We have negro hands whom we see only in the morning to give them orders for the day's work, and we have never been disappointed in the amount of work they have done in our absence. Some of our friends have discussed to some extent what is called the "negro problem." We have never yet worried over the negro problem. The white men of the South, the real friends of the negro, will work out the problem as they would have worked it long ago if they had been left alone. In former times every plantation was a training school for farm hands, mechanics and seamstresses, and Mr. Jellicorse well says that Booker Washington's school is doing but a fraction of the education in manual training that thousands of farms were doing years ago. There were then innumerable Tuskegee institutes, and the best hands still are the old gray haired men who were trained in the plantation school. The inferiority of the younger negroes is due to the fact that they have not had the training. But with all his imperfections the negro must be the farm hand of the South, for he is the only farm hand that fully understands a mule, and the mule is the work animal of warm climates everywhere. So long as the South works mules she must have negroes to work the mules.

◆

Old Fencing.—There are thousands of miles of old wire fences in the U. S. that are an "eye sore" to their owners, as they will not turn stock, and, unless this material can be reconstructed in some way, there must follow serious loss. We would suggest that our readers send for a catalogue of the Eureka Diagonal Stay Fence Co., Lebanon, Ind., as they offer a machine for $5 that they claim is practical, to renew old fences, or build new ones; and they will refund the money if you are not satisfied. See their ad. in this issue of the P. F., and be sure to mention P. F. when writing.

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Advertisements will be received for this column from our yearly subscribers only. Only advertisements of farms for sale, articles for exchange, help wanted, positions wanted, etc., will be received. Charge 1 cent per word for each insertion. No advertisements of less than 25 words or more than 10 agate lines will be admitted to the column. This column will appear each alternate week.

☞ **Special Notice.** The farms advertised in this column must be the farm of the advertiser, and not placed in his hands by another person for sale or exchange. No advertisements from Real Estate Agents will be accepted for this column; they must go in our regular advertising columns at regular rates.

Wanted. By responsible man, to superintend or rent, a dairy farm in South, N. C. preferred. To begin Dec. 1, 1903. Box 94, Whitesville, N. Y.

Farm Raised Barred Rocks, finest strain of winter layers. Eggs to exchange for pheasants or eggs. STEVENSON'S NURSERY AND POULTRY FARM, Fordyce, Ark.

Will Exchange seed potatoes, Commercial, Red and White Bliss, for male pig, four weeks old or more, O. I. C. or Poland China. JOHN H. GRUBB, Green Lane, Pa.

For Sale. A rich farm of 80 acres, in the canning section of York Co., 2 miles from Delta, Penn. Price, $3000. Barn worth $1000. Address, Box 4, Linden, Md., Montgomery Co.

152-Acre Farm for Sale. Good Improvements; lots of fruit. Wheat and oats main crop. 2½ miles west of Perry the county seat. Price $8200.00 or $7400.00 August 1st. CHAS. BOYLAN, Perry, Okla.

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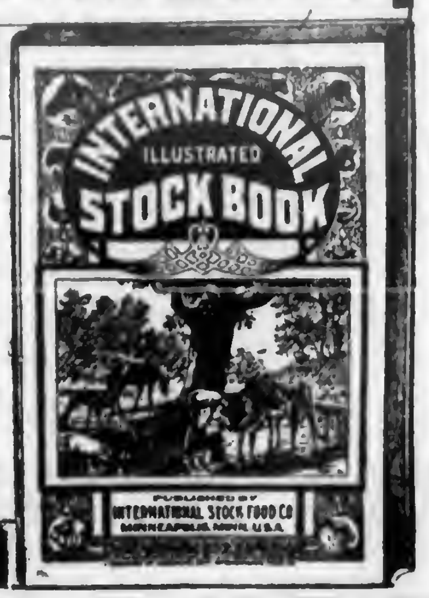

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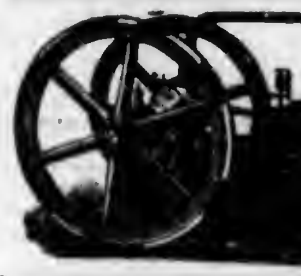

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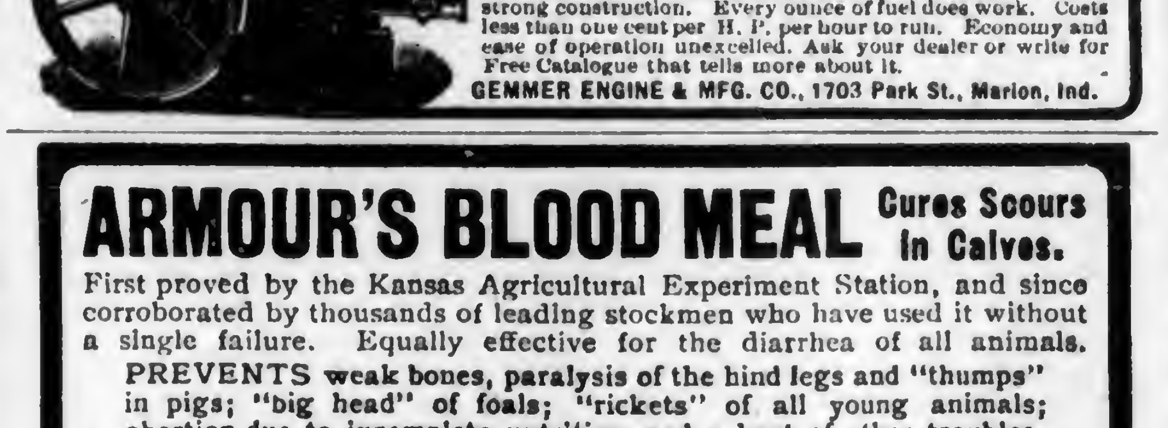

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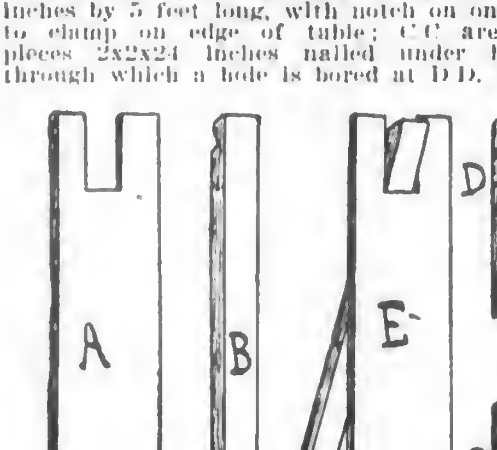
SHORT CUTS.

BY PRACTICAL FARMER SUBS.

All other trades have resorted to "Short Cuts." To be successful farmers must resort to them, too. In this column we will publish all actual labor saving short cuts made by the farmer on the farm and the housewife in the home. Write and tell us of any labor saving tool you have made, of any method of management or manner of using implements to save time, labor and money, or increase their efficiency. Even the smallest things may be useful and valuable. Hints and helps in the household are always welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Write on postal cards and make articles short. All errors will be corrected by the editor. Address all communications under this head to T. Greiner La Salle, N. Y.

Handy Ironing Board.—A is the board, 1x12 inches by 5 feet long, B the foot 2x4 inches by 5 feet long, with notch on one end to clamp on edge of table; C C are two pieces 2x2x24 inches nailed under board, through which a hole is bored at D D. When



in place, a bolt ¼ inch thick is put through the holes and couples the foot to the board, and also forms a hinge. The ironing board clamps on the kitchen table, and when not in use shuts up like a pocket knife.
Dallas, Ore. A. G. Rempel.

A Tailor's Short Cuts.—Sharpen scissors by rubbing, as they were first ground, on emery paper, until you can feel a wire edge all the way; then close and do the other blade the same way. Rub lightly again. Do not rub on the inside. If they will not meet at the points, grind points off until small enough again. Stuff a pin cushion with wool and pin on the breast when in use, and use steel pins with white glass heads. Keep irons covered up and save half the fuel. Learn to stitch without basting. Very little is needed when you learn to do without it. If the top piece shoves, loosen the pressure on the foot and hold a pin in the hand and stick half an inch ahead of the needle and keep it there until it reaches the needle, then repeat and so on to the end. A little practice does the trick. Put guide on if you cannot stitch straight without. At no time in stitching let anything hang off the machine table on the side next to you or you will stitch crooked. Put chair on other side to catch skirts or large things.
Philadelphia, Pa. F. W. Hutchins.

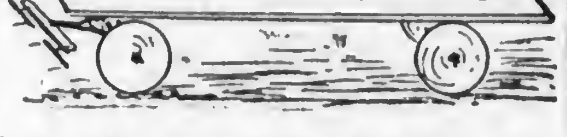
Rice Boiler.—A boiler for rice, oat meal, etc., is easily made by taking flat cover from lard or cottolene pail and punching holes around rim and through top; invert in kettle or stew pan and set on it small pail if rice, etc. Water circulates all around the pail and under it. A dipping basket may be made in similar way, punching small pail full of holes; punch from inside so it can be easily cleaned. F. A. Cowell.
Lakebay, Wash.

Meat and Vegetable Cutters. — We have a meat and vegetable cutter, and find it all Mr. Terry claims for it, but find it useful in other ways. Farmers here all keep a dairy, and most of them keep a flock of hens. Most of the young calves are killed at once. They often furnish all the meat a small flock of hens need during the winter. But few farmers have a bone cutter, and how best to feed the meat is sometimes a puzzle. Sometimes it is cooked and fed in the mash, but it is not always pleasing to the good wife to have a mess of poultry food on the kitchen stove. The best way is to dress the calf clean, then cut the meat from the bones and run it through the cutter, which leaves it in small pieces just right for the hens. The bones are quickly cut up with an ax, so there is no waste. The cutters cost from $1 up, and one will quickly pay for itself in this way. They are also good to cut up cabbages and roots for green feed, or dry bread crusts and table waste so they will make good feed for the hens or for young chicks. S. S. Chandler.
Hardwick, Vt.

Hog Lifting Gate.—If you have a sow that lifts the gate and gets herself and followers into mischief, take an old worn-out crosscut saw and nail it to the bottom board of gate, letting it project below the edge of board one-half to three-quarters of an inch and let her lift. R. Mate.
Chesaning, Mich.

Light Bread in Cold Weather.—Place flour in pan or tray. To one quart warm water add one teaspoonful salt, one-half cup soft yeast, one-half cup sugar, about the same of lard. Make stiff enough to knead well. It should be quite smooth. This can be done any time to suit your own convenience. Place in jar, grease the top, let stand till light, knead again and make in loaves, or put back in jar to use as you want warm rolls. I have had the dough for nearly a week and the last was the best, just so it does not freeze or sour. You need not watch it to see that it is too cold, either. If you have good yeast it will come.
Sweetwater, Tenn. Mrs. J. P. Janeway.

Farmer's Handy Wagon. — For a wagon for easily hauling plows, harrows, weeders and other light articles from one place to another, take 2-inch plank and cut wheel 16 inches in diameter. Bolt a smaller piece of plank to each side of the wheel; bore a 2-inch hole through centre. Make 2 axles from tough wood; connect same with reach. Allow reach to have plenty of play in front axle, to facilitate turning around. Put on bolster high enough so that top platform will project over wheels. Get a piece of old wagon tire, bent in proper shape; bolt it to front axle. Couple you team to it and you are ready to drive along. Wm. H. Oswald.
New Tripoli, Pa.



Short Cut in Skirt Making.—In making a calico dress skirt, cut five widths the desired length, then fold one (this is for the front gore) in the middle lengthwise, and pin it so that it is even all the way along. Then begin at the lower edge and gradually slope it off to about one-fourth the width at top; crease it down and cut off. Take another width, measure and get one-third the width at one end and two-thirds at the other end (just as some people gore an apron). Yo will quickly see that both gores will be for one side, so take another width and treat it likewise. The other two widths go in straight for the back. Join the gored sides of the front width to the straight edges of the side gores and the gored edges of the sides to the back widths. Gather all around, but in sewing on the band or waist do not put many gathers in front nor on the sides. I think if the ladies will try this plan they will like it, as the skirts hang so nice. You will have two extra gores, but I use them for collar, cuffs or band, or something that way. Mrs. Dora B. Scott.
Niota, Tenn.

Supporting Trees and Limbs. — Instead of putting props under trees we put screweyes in the limbs and fasten with No. 14 galvanized wire to screweyes in trunk or opposite limbs. For small, leaning trees put screweye in tree and connect with wire to stake driven in ground. A. A. Wright.
Mission, Washington.

Planting Nuts. — To grow walnuts and butternuts plant the nuts in the fall, four inches deep, one nut in a place; or better, two nuts if you have them. If both grow, destroy the weaker one the next year. The frost will crack the nut. Plant the nut where the tree is to stand, for these trees are not easily transplanted, and will grow faster if not. In time they will prove a profitable investment. L. E. Kerr.
Hurricane, Ark.

FITS

If you suffer from Epilepsy, Fits, Falling Sickness, St. Vitus's Dance, or Vertigo, have children, relatives, friends or neighbors that do so, or know people that are afflicted, my New Treatment will immediately relieve and PERMANENTLY CURE them, and all you are asked to do is to send for my FREE TREATMENT and try it. It has CURED thousands where everything else failed. Will be sent in plain package absolutely free, express prepaid. My Illustrated Book, "Epilepsy Explained," FREE by mail. Please give name, AGE and full address. All correspondence professionally confidential.
W. H. MAY, M. D.,
94 Pine Street, New York City.

FENCE! STRONGEST MADE. Bull Strong, Chicken-Tight. Sold to the Farmer at Wholesale Prices. Fully Warranted. Catalog Free. COILED SPRING FENCE CO. Box 117, Winchester, Indiana, U. S. A.

A MACHINE to weave your own fence of Coiled Hard Steel Spring Wire, 52 inches high, at 25c per Rod. $25 buys wire for 100 rod fence. Agents Wanted. Catalogue Free.
Carter Wire Fence Mach. Co. Box 206 Mt. Sterling, O.

Steel Picket Lawn Fence. Handsome in appearance. Efficient in service. For Lawns, Parks, Cemeteries, Schools, etc. Full line of wire fences and specialties. Good propositions for live resident agents. Write for circular.
WIRE SPECIALTY CO., Dept. c, Akron, O.

Write for a catalogue of our new diamond mesh, woven steel wire fence. The best form of farm fence for all-round use.
KOKOMO Steel Farm Fences
Examine it at your dealer's. You buy it without risk. It is guaranteed.
Kokomo Steel & Wire Co., 21 North Street, Kokomo, Ind.

Announcement

We have obtained the Court's decree against two additional manufacturers who have been infringing our patent. The rule of law is: "The maker, seller or user of an infringing device are all liable in damages to the owner of the patent infringed." The Janesville Machine Co. and the Keystone Farm Machine Co. are the only firms licensed to use a *flat tooth* covered by our patent, and we finally warn sellers and users of all other makes. So admirably have the 60,000 "Hallock" Weeders done the work for which they were designed, that one maker after another sought to copy it. However, by the various Courts' decisions, these makers are compelled to abandon the manufacture of a Weeder having flat teeth, and they are now experimenting with other shapes; but it is the flat tooth that made the "Hallock" Weeder famous, and in view of the manner in which our patent has been sustained, it is dangerous to use an infringing tooth. Write for descriptive circulars and prices.
HALLOCK WEEDER & CULTIVATOR CO.,
Box 803 York, Pa.

THRESHERS and Threshing Engines, Saw Mills, Machinery and full line of Ag. Implements. Free catalogue. A. B. Farquhar Co., L't'd., York, Pa.

HIGH CARBON COILED SPRING STEEL WIRE FENCE CATALOGUE FREE. INDIANA STEEL & WIRE CO. BOX 513, MUNCIE, INDIANA.

Barbed & Smooth Wire

Write for our prices on 2 and 4 point Barbed Wire, painted and galvanized; also, 65,000 pounds
Smooth Galvanized Wire Shorts
Gauges, 10, 11, 12, 13 and 14; Prices from $1.50 to $1.75 per hundred. Write for Catalogue No. 224
CHICAGO HOUSE WRECKING CO.
West 35th and Iron Sts., CHICAGO.

THE BEST FENCE Can be made at the actual cost of wire. Over 100 Styles, and 50 to 70 rods per day, Horse-high, Bull-strong, Pig and Chicken-tight.
THE DUPLEX MACHINE makes it. The Machine is Automatic, simple in construction, runs easy, works rapidly. Sent on Trial. Plain, barb wire and Gates at wholesale prices. Catalog free.
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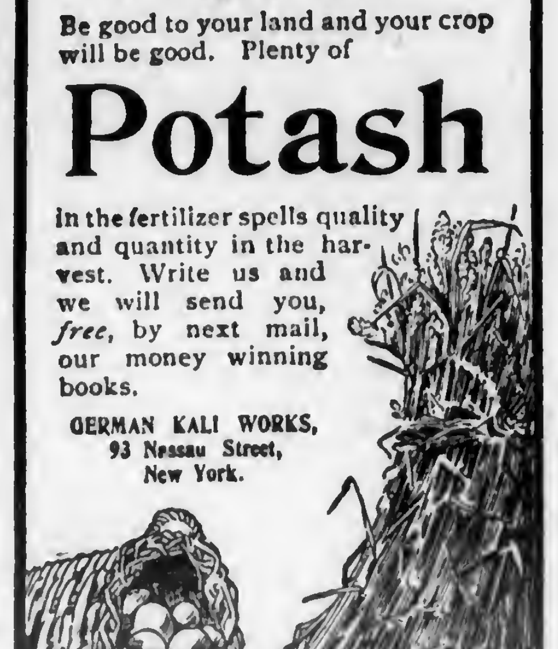
There's Economy in using
"Eagle" Barb Wire.
100 pounds measure 148 rods, or 220 pounds to the mile. Made of high-grade steel wire, galvanized; barbs three inches apart, making it the best. We can make immediate shipment. Get our special close-to-cost prices, delivered. Catalog of Farm, Lawn and Poultry Fence FREE.
CASE BROS, Colchester, Conn.

A FENCE SECURE from within and without. It keeps its form in heat and cold. It does not unravel for all wires are continuous. Extra strong at top and bottom. A fence to meet all needs, handsome, strong, permanent, easily and quickly built. 18 to 58 inch heights. It is suited to every farm want—all kinds of stock. Catalogue free.
CUYAHOGA WIRE & FENCE CO., Dept. M, Cuyahoga Falls, O.



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Be good to your land and your crop will be good. Plenty of
Potash
in the fertilizer spells quality and quantity in the harvest. Write us and we will send you, *free*, by next mail, our money winning books.
GERMAN KALI WORKS,
93 Nassau Street,
New York.

DO YOU KNOW (FROST BEST CHEAPEST) our fence is made of Hard Wire of heavy gauge, and is twice as strong as woven fencing made of soft wire of small gauge? It's true. Write for catalog, cuts, etc.
The Frost Wire Fence Co., Cleveland, O.

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If We Offered
PAGE Fence at the price of others, we'd have to use their kind of wire. We won't do that.
PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.
OR GEORGE W. DORAN, EASTERN AGENT, ARDMORE, PA.

BROWN
16 to 35 Cents Per Rod.
Heaviest, strongest, most durable fence made. All wires extra large. We sell to Farmers at Wholesale Prices. Coiled Spring, Barb and Soft Galvanized Wire. Write for catalogue.
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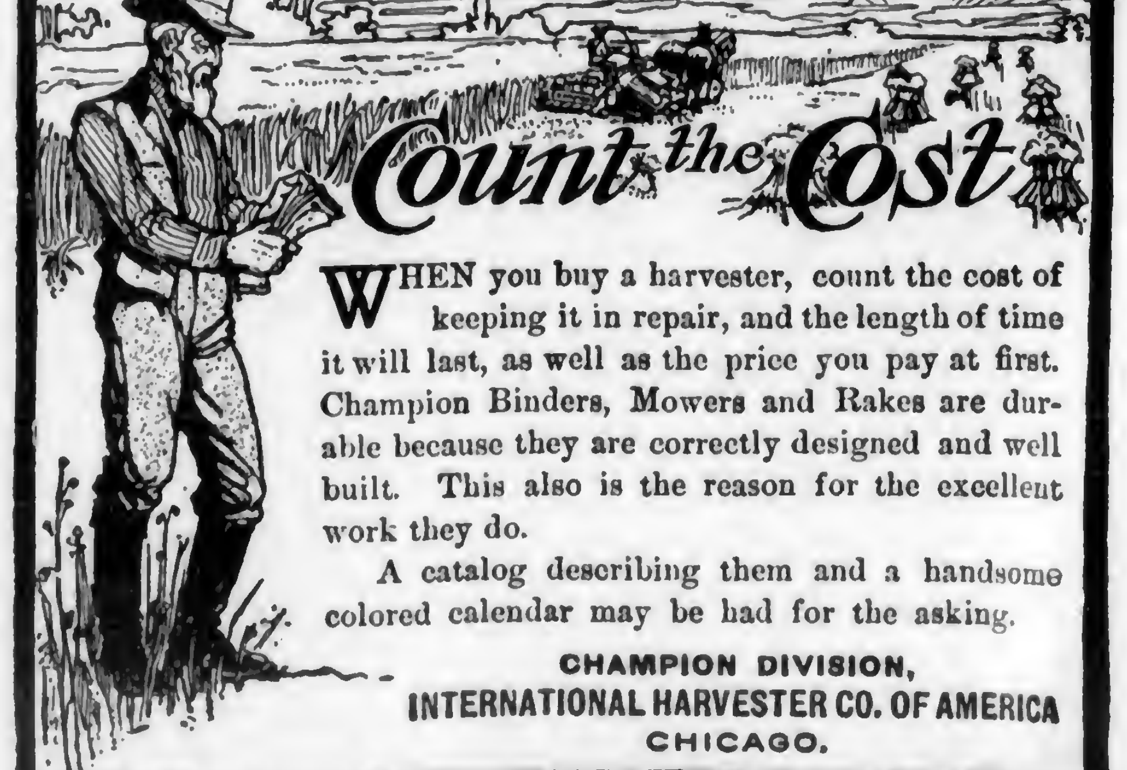
THE STAY THAT STAYS Where it is Intended to stay.
Stays No. 9 Wire. No. 9 Line Wires.
Testimonials by T. B Terry, Hudson, Ohio., and others.
Eureka Diagonal Stay Fence Co. LEBANON, INDIANA.
Fence Shipped in the roll if preferred. Prices reasonable, quality considered.

ALL STEEL LAWN FENCE
Cheap as Wood
We make Wire and Wrought Iron Lawn Fence, Cemetery & Farm Fence, and we sell direct to the user at wholesale prices. Buy direct from us Save Agents Commission. Write for FREE CATALOG
UP-TO-DATE M'F'G CO.
965 North 10th St., Terre Haute, Ind.



Count the Cost

WHEN you buy a harvester, count the cost of keeping it in repair, and the length of time it will last, as well as the price you pay at first. Champion Binders, Mowers and Rakes are durable because they are correctly designed and well built. This also is the reason for the excellent work they do.

A catalog describing them and a handsome colored calendar may be had for the asking.

CHAMPION DIVISION,
INTERNATIONAL HARVESTER CO. OF AMERICA
CHICAGO.

Mistakes, Failures and Successes.

In this department we publish the Mistakes, Failures and Successes of our subscribers. They are equaly instructive and necessary, pointing the way to success. Subscribers are cordially invited to send accounts of efforts they have made which resulted in failure, as well as those which proved successful. Give in a few words your experience of anything connected with farm or household work. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Only helpful communications of value to P. F. readers will be accepted. The head of the column will be considered the position of honor each week. Send all communications to Geo. T Pettit, Oneida, Kan.

Failed to Prune.—In 1900 I set a small orchard. Being a young man and inexperienced in fruit growing, I supposed that the trees should be left just as they came from the nursery as regards limbs and branches. Neighbors told me to prune them back and head them as I wished them to grow, but I was afraid it would kill them so let them go till spring of 1902. I then saw my mistake and went to pruning, removing limbs that were over an inch in diameter and growing within a foot of the ground, that should have been cut off at planting time. Pruned all the trees up to a nice head and cut all long branches in head back half, putting grafting wax on the wounds. Did not lose a tree, but lost two seasons' growth, which was a serious mistake, but nevertheless a good lesson for me. Don't be afraid to prune at planting time. W. W. Whitlow.
Spring Hill Ranch, Middle Valley, Idaho.

Carelessness with Horses. — We have made such foolish mistakes we feel a little timid to acknowledge them, and probably no other reader will be so foolish and careless if not warned. One time we were moving, and went to the house for a drink, leaving the team without hitching, as there were no hitch straps on the harness. One was a young horse, not accustomed to standing; flies bothered them so they left, ran into a tree and ruined a good mower. Thankful no one was hurt. Another time was in the city and just wanted to step to the door, so tied one horse with hitch strap; not liking to stand, he broke the strap and got away. A good boy on the street got them, so no damage was done this time. Very thankful again this time. Again, was in the city, drove in the yard, took off bridle, leaving horse hitched to buggy, tied him with halter to rack and fed him hay, while I ate lunch. Halter became untied and he ran on the street, stopping at meat market. No damage done except strewing a few things on the street. Think I have profited some by these careless ways. If any readers are likewise careless, take heed and avoid damages.
Ada, Mich. H. C. Denison.

Cast-Off Shoes.—It is poor economy to wear the cast-off or partly worn shoes of some other member of the family. Sometimes the house mother, disliking to put aside shoes in which there is yet considerable wear, resolves to economize by wearing them herself. The result is often sore feet, corns, bunions, tired ankles and, not infrequently, rheumatism in knees. This is a natural consequence after the shoes have been fitted to other feet, but very often the wearer does not realize the cause of her trouble. If anyone needs comfortable, well-fitting shoes, it is the housekeeper who is upon her feet so many hours each day. Mrs. T. A. Shuff.
New Berlin, Ill.

Bridle Your Tongue.—I have found by experience that general good judgment is required in farming, as indeed in all pursuits and professions wherein a man attains to eminence and wealth; and this is shown chiefly in doing the right thing at the right time, and having the right man in the right place. For instance, it would be wasteful to employ your men in cutting firewood or breaking stones for the repairs of the farm roads on a dry, fine day when you are needed in the corn field, or the wheat field is shedding its seed. The young farmer is too often hasty and eager, and there are too many outgoing tenants, as well as landlords, who will nail an incautious engagement or unguarded word. To keep your own counsel is safe policy. There is never any good done, but often much mischief to your plans by blabbing ere you carry them into execution. You are at least certain of being tormented by the unsolicited opposition and advice of a dozen busybodies, who watch you but to canvass and criticise your proceedings when your back is turned. I have found by experience that such gossipers will shrink away gradually from a demeanor of studied reserve, and you will have the satisfaction of developing your own undertakings.
Cincinnati, O. H. Walter Wallace.

Success with Soy Beans. — About 9 years ago I received some soy beans which I planted in spring of '95, but frost nipped them before they were matured. I cut them for hay, saving a few handfuls of the half developed beans, which I planted the next spring, and that fall I managed to save enough ripe beans for seed. I kept on planting until now I have a bean that will mature in ninety days and has done it for the last three years. Here, in Central Illinois, they grow very hardy and quite rank, about 3 feet tall, making an abundance of feed per acre, and they are heavy bearers. I find them profitable and valuable feed for all kinds of stock. If fed with other grain they make a good ration; I feed them to my chickens and they relish them. Last year I sowed a patch for hog pasture, turned the hogs on them in the fall and I never have had hogs to be more hardy and thrive better than that lot did. What I want for seed I drill with corn planter and cultivate them; for hay and pasture I sow them broadcast and cut with mowing machine.
Arthur, Ill. D. K. Beiler.

Success with a Calf Feeder.—Raising calves in the most economical way possible is a problem that has and does perplex many. I have tried various ways, but find this way the best of any yet tried by me. Get an "Ideal" calf feeder. The feeder is very simple, consisting of a heavy rubber nipple which has inside a piece of porous rubber tube; these are connected to a rubber hose on which is a little weight, which goes in the bucket of milk; these are fastened on a cast-iron shank, which also has a clasp to hold bucket of milk. The feeder is worked simply by the suction of the calf. When the calf is about three days old, take from mother and commence to feed from feeder, using about two quarts of milk at a feed. As the calf advances in age, skimmilk can be substituted in place of fresh milk. Have a box of oat meal, shorts and oil meal near the feeder so calf will learn to eat solid food, which will help supply the wants of rich milk. A calf raised on a feeder becomes very gentle in a few days and is easily handled. When you raise a calf by teaching him to drink, it will become "pot-bellied" if you feed it clabber or sour milk, for he drinks it so fast. The feeder is the nearest thing to nature, and it compels the calf to feed slowly, and therefore does not require as much feed. I have raised several in this manner and prefer it to raising them by hand. M. H. Lancaster.
Bunker Hill, Ill.

To Cure Pork.—Let the hogs hang at least twelve hours after butchering, in an atmosphere which is near the freezing point, though they must not freeze solid. Now cut up and cover the flesh side of the meat lightly with brown sugar and saltpetre. Let stand two days where it will not freeze, then salt and pack on a table or open swinging shelf where drainage is good. After it lies in salt for about six weeks take out and hang up to dry for two or three days, wiping off all salt that adheres to it. Now smoke over a fire made of green hickory chips until it is of a golden brown color. Too much smoking will cause the meat to taste strong. Now sprinkle borax over it, rubbing it in well around the bone; wrap each piece in brown paper and put in flour sacks that have not been washed. Hang up in a dark, dry place and you will have nice meat all summer. Mrs. G. B. Welch.
Kemper, Ill.

Home-Made Stable Blankets.—I make our own stable blankets, which, with good care, will last two winters or more if horse is not hard on blankets. I take six bags in which we buy gluten, bran, hominy feed, etc., all as near the same length as possible, and at least two of the same width. Sew the open ends of these pairs together, using store twine for thread, and a darning needle. Sew over and over, stitches deep enough to be very firm. Fasten end at start of every seam by tying it into seam; tie ends together with square knot at joining of every new thread, and fasten end of every seam with three or four buttonhole stitches close together, leaving cut end one inch long. Now that the sacks are sewed together in pairs, sew along the sides of these pairs to make one large piece. Finish front of blanket with snap and ring from an old blanket if you have it, using denim or piece of old overalls for straps to sew to blanket. Fold to three thicknesses, cut about 6 inches long and stitch to blanket on machine. Old overall straps make a good surcingle. When dirty lay on grass through a hard rain. Mrs. Geo. S. Davis.
Box 90, Northwood, N. H.

"The square peg in the round hole" figuratively expresses the use of means unsuited to the desired end. A great many people who have been cured of dyspepsia and other diseases of the stomach and its allied organs of digestion and nutrition by the use of Dr. Pierce's Golden Medical Discovery say: "We tried many medicines with only temporary benefit. It was not until we began the use of 'Golden Medical Discovery' that we found a complete and lasting cure."

$3,000 FORFEIT will be paid by WORLD'S DISPENSARY MEDICAL ASSOCIATION, Proprietors, Buffalo, N. Y., if they cannot show the original signature of the individual volunteering the testimonial below, and also of the writers of every testimonial among the thousands which they are constantly publishing, thus proving their genuineness.

"It is with pleasure that I tell you what Dr. Pierce's Golden Medical Discovery and 'Pellets' have done for me," writes Mrs. T. M. Palmer, of Peede, Kaufman Co., Texas. "Two years ago I was taken with stomach and bowel trouble. Everything I ate would put me in distress. I lived two weeks on milk and even that gave me pain. I felt as though I would starve to death. Three doctors attended me—one said I had dyspepsia, two said catarrh of the stomach and bowels. They attended me (one at a time) for one year. I stopped taking their medicine and tried some patent medicine; got no better, and I grew so weak and nervous my heart would flutter. I could not do any kind of work. Now I can do my house work very well; *am gaining in flesh and strength*, and can eat anything I want."

Accept no substitute for Dr. Pierce's Golden Medical Discovery.

Dr. Pierce's Common Sense Medical Adviser is sent *free* on receipt of stamps to pay expense of mailing *only*. Send 21 one-cent stamps for the paper covered book, or 31 stamps for the cloth bound volume. Address Dr. R. V. Pierce, Buffalo, N. Y.

How to Paint a House Cheap

And Have it Guaranteed to Look Better, Wear Longer and Cost Less Than the Best White Lead Paints.

Never Fades, Cracks, Chalks, Peels or Blisters and is Not Affected by Gases. Fifty Sample Colors and Illustrated Booklet Prepaid to Any Address Absolutely Free.

The cost of painting the house and barn, outbuildings and fences is a heavy burden. Cheap paints soon fade, peel or scrape off and white lead and oil costs so much and has to be replaced so often that it is a constant expense to keep the bright, clean appearance so desirable in the cozy cottage home or the elegant mansion. The following are a few of the large users of Carrara Paint:

Pennsylvania R. R. Co.; Pullman Palace Car Co.; Chicago Telephone Co.; Central Union Telephone Co.; Field Museum, Chicago; Kenwood Club, Chicago; Cincinnati Southern; C. & E. I. R. R. Co.; Denver & Rio Grande R. R.; Wellington Hotel, Chicago.

Carrara is used because it lasts longer, never fades, never cracks, never blisters, never peels, covers more surface than the highest priced paints and costs less than the cheap mixed paints that injure instead of protect. There is but one Carrara. It is made by the Carrara Paint Agency, General Offices, 900 Carrara Bldg., Cincinnati, Ohio, and anyone having a house to paint should send for 50 free sample colors and our handsome booklet, showing many buildings reproduced in all the colors just as they are painted from this great paint that has stood the most rigid tests for 25 years and, bear in mind, that it is the only paint ever manufactured that is backed by a positive guarantee in every case. Distributing depots in all principal cities. Write to-day and save half your paint bills in the future.

The Waldorf-Astoria, New York, One of the Most Magnificent Hotels in the World, Has Used Tons and Tons of the World-Famous Carrara Paint.

Planet Jr. catalogue is free for the asking and tells all about the best line of seed drills, wheel hoes and 1 and 2-horse cultivators on market. Send for it. S. L. Allen & Co., Box T711, Philadelphia.

Scientific Grinding Mills grind corn the ear or in grain in any form. Strong, exact, reliable. Catalog Q mailed free.
FOOS MFG. CO., Springfield, Ohio.

ADVICE TO MOTHERS
Mrs. Winslow's Soothing Syrup should always be used for Children Teething. It soothes the child, softens the gums, allays all pain, cures wind colic, and is the best remedy for diarrhoea. Twenty-five cents a bottle.

SWAN'S Standard ROOFING is not like others—it is better. It is Fire, Wind and Water-Proof, being a perfect roof in every way and at the same time has the advantage of being low in price. Fits the steepest or flattest roofs. Anybody can lay it. A knife and hammer are all the tools necessary. Saves you money on either new or old roofing. Sample and Circulars free.
THE A. F. SWAN CO., 115 Nassau St., NEW YORK.

Appleton-Goodhue Wind Mill.
A full wheel with double arms of heavy channel steel, engine way guide, self-oiling boxes, covered gears, a perfect governor, a noiseless brake, etc. Prices right.
Towers guaranteed against cyclones and tornadoes.
Illustrated Catalogue describing them and our famous grinders, cutters, shellers, wood saws, huskers, horse powers, etc., free.
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ROUND SILOS. No corners, no angles, hence no moulding, rotting and waste. Cypress, White Pine and White Hemlock. 4 styles; 200 sizes. Best and cheapest Silos on earth. All kinds Silo machinery. Catalog free.
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Short Story in Small Space
Before you buy a scale send for Osgood's Free Catalogue, High grade Scales. Prices right. Fully guaranteed. On the market 35 years.
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ROUND SILO.
The "PHILADELPHIA."
The only Perfect continuous open front Silo made. See Open Top Patent Roof. Ask for catalogue.
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Also made in the West by the DUPLEX MFG. CO., South Superior, Wisconsin

The Economy Silo
Made of selected lumber, by skilled mechanics and special machinery. Continuous hoops—airtight—the best and cheapest. Write for illustrated catalogue and information.
ECONOMY SILO AND TANK CO.
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PLANO
TIES EVERY SHEAF

Why bother with a "cheap" or worn-out Binder when a PLANO will save temper, time and team?

The Plano Binder holds the highest record ever made for accurate tying; its famous Knotter (composed of only 16 pieces—about half the usual number) has actually tied 391,000 bundles without missing one, and ties harvest after harvest without a miss.

Built to work well under trying circumstances, the Plano Binder handles ordinary crops with greatest ease. The stored power of its patent Fly Wheel prevents miring or choking down—makes the draft uniform and light.

If you want a Binder, Header, Reaper, Mower, Rake, Sickle Grinder, or Husker and Shredder, call on the Plano agent. Catalogue free.

PLANO DIVISION
International Harvester Co. of America
CHICAGO, ILL.

Free to All Housekeepers!

THE "1900" FAMILY WASHER FREE!

GREATEST TIME, LABOR AND EXPENSE SAVING MACHINE EVER INVENTED.

NO MORE RUBBING, BOILING OR WEARING OUT OF CLOTHES.

A Large Family Washing Can be done in One to Two Hours. It is so easy and simple a child can operate it.

The "1900" Ball-bearing Automatic Washing Machine is the simplest, easiest running, most efficient machine for washing clothes ever invented. It is a thoroughly practical labor-saving machine for washing all kinds and grades of materials from the finest laces to the coarsest fabrics. It is constructed on scientific principles. It revolves on ball-bearings, which render the rotary movement as easy as the wheels of a high-grade bicycle. The "1900" Washer will wash any garment without boiling, without scrubbing and without wear or tear. There is absolutely no need of using any chemicals. Soap and hot water are the only necessary things to do perfect work.

The washing is done while the operator sits by the side of the tub, revolving it by the handle.

There is no further need for stooping, rubbing by hand or boiling of clothes. The "1900" Washer will wash large quantities of clothes (no matter how much they are soiled) in from 6 to 10 minutes.

It is not a cumbrous affair, for, unlike so many so-called washing machines, it has no complicated machinery, no wheels, paddles, rockers, cranks, etc.; in fact it is so simple that a child can operate it.

Other machines move the clothes through the water, but this machine forces the water through the clothes, and rubs them at the same time.

The principle upon which this machine operates is directly opposite to that of any other.

SENT ABSOLUTELY FREE

without advance payment or deposit of any kind, freight paid, on 30 days' trial. May be returned free of expense if not satisfactory.

The "1900" Washer will wash collars and cuffs, laces, cambrics and the most delicate materials perfectly clean and positively without tearing them or wearing out a single thread. It will wash blankets, bed spreads and the heaviest clothes just as easily and thoroughly.

THE DRUDGERY OF MONDAY'S WASHING BANISHED FOREVER.

No More Aching Backs, No More Rheumatic Joints, No More Colds and Pneumonia Bending over Steaming Tubs.

HOW IT OPERATES.

The operator turns it to the right and to the left about half way round each time. To make it work as nearly *automatic* as possible it is provided with two oil tempered coiled springs at the bottom of the tub, which engage at each extreme point and help to reverse the motion. The machine moves uninterruptedly until it reaches the point where it should be reversed; then it comes in contact with the force of these springs and, like the action of a rubber ball bounds back, meeting the spring force again at the other extremity.

The clothes are placed in the tub and the disk, which we call the agitator, is placed over them with the wash-board side down. This agitator does not turn, but adjusts itself automatically up and down, regulated by the amount of clothes and water in the tub. Over this a cover is placed to prevent steam from escaping.

We assert in the most positive terms that any one who gives the "1900" Washer a fair trial will never use the wash-board any more or if any other washer is in use, it will be given up at once. Thousands of pleased customers will bear us out in this statement. Our offer of sending the washer on free trial, freight paid both ways, is a thoroughly honest and sincere one and proves beyond question our faith in its merits. **No one ever returned a "1900" Washer,** that needed one and gave it a fair trial, and no one would part with it for many times its cost if they could not get another.

ABSOLUTE PROOF FROM USERS OF THE "1900" WASHER.

$1,000 Will Be Paid to Any One Who Can Prove That the Following Letters Are Not Genuine:

EAST PLYMOUTH, Ohio, Feb. 2, 1902.
P. O. Ashtabula, O.

We have been using the "1900" Washer since May 15, 1900. Have done over 1,200 washings and I think it is good for as many more. We do family work from Ashtabula. We have used 8 *different machines, and the "1900" beats them all for good and fast work and durability.* GEO. N. BURNET.

HART, Mich., August 25, 1902.

Please find enclosed money order to *pay for my washer in full.* We are well pleased with the washer. A great many people have looked at it. *My mother, 84 years old,* and I, who am a cripple in a wheeled chair, have done our washing in it for the last three weeks. MRS. ALICE ROUSE.

KANSAS CITY, Mo., May 14, 1902.

I have given your washer a fair trial. It is the best washer I ever saw. *It has washed our heavy blankets with ease.* I washed them last spring and rubbed more than an hour and yet they had to go through again, but the "1900" Washer cleaned them thoroughly clean. *We do our washing very quick and have no tired and worn-out feeling as of old.* I wish every lady had a washer.
MRS. J. L. BANNER, 4302 Troost Ave.

PEORIA, Ill., Sept. 2, 1902.

I have given the "Washer" a good trial, both with my washing *and bedding. It is the best machine I have ever used for blankets;* in fact, I think it is the best all around washer I ever heard of. I would not do without mine.
MRS. LILLIAN SELLERS.

WASHINGTON, D. C., Sept. 8, 1902.

You will find enclosed payment for the "1900" Washer. It fully comes up to our expectations and is all that you have claimed for it. We will take great pleasure in recommending it to all who wish to avail themselves of one of the *greatest labor-saving devices of modern times for domestic purposes.* WM. F. SALTER.

REMEMBER—You take absolutely no risk, incur no expense or obligation whatever. The washer is sent by us on 30 days' trial, freight prepaid going and coming, and positively without any advance or deposit of any kind.

For catalogue and full particulars of this liberal and absolutely genuine offer, address

"1900" Washer Co.
23 P., State St., Binghamton, N. Y.

AN ENDORSEMENT BASED ON EXPERIENCE:

In answer to several readers, who have recently written to inquire whether we thought the free trial offer of the "1900 Washer Co." was reliable, we wish to make the following statement: About two months ago the Editor of SUCCESS WITH FLOWERS sent for one of these machines under all the conditions named in the advertisement of this firm. Another resident of West Grove, not connected with this paper, sent at the same time, not a cent of money was enclosed, and it was merely a request to send the machines on trial. In due time the machines arrived, all charges paid, and were taken to the respective homes; the one to the Editor's home was given a severe test, that of cleaning two soiled blankets. It stood the test perfectly, turning out the blankets in a few minutes as clean as though never used. For four successive weeks both these machines were regularly used for all washing, including the clothing for little children. To show how easy the machine runs, we will mention the fact that much of the "running" of one was done by a little boy of six years. The "1900" Washer is certainly a splendid machine, and a fair trial bears out every statement the manufacturers make. At the end of the four weeks the machines were promptly paid for, as neither of the ladies in question was willing to go back to the old way. This experience warrants us in recommending this machine to our lady readers, no matter how many others they may have tried and found unsatisfactory.—EDITOR.
(From *Success With Flowers*, West Grove, Pa., Jan. 1903, issue.)

Postal Card Correspondence.

This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

Located in Central New York, Onondaga Co. Weather cold and wet. A few farmers only have started to plow. Maple sugar a scarce article and tastes of the buds, owing to a warm spell early in March. Bad roads make trade dull. Prices: Butter, 25c. per lb.; eggs, 12c. per doz.; potatoes, 50c. per bu.; cows, $40 to $50 each; horses high, good ones readily bringing $150 each. Hay and grain scarce. E. E. LAWRENCE.
Spafford, N. Y., April 14, 1903.

Situated in Marion Co., Tenn. Jasper is the county seat; a nice, small resident town. We have had a mild, wet winter and spring. Everything is getting green. Timber is nearly all put out; stock can soon be put on the range. We have boundless acres of good grass land on our mountains, where we farmers take our stock for the summer. Wheat and oats look well; some corn planted. Farmers very much behind with their work. Prices: Corn, 70c.; wheat, 90c.; oats, 50 to 60c. per bu.; hay, $1 per cwt.; eggs, 12½c. per doz.; hens, 25c. each; bacon, 12½c.; hogs, 6c. gross; good fat cattle, 4c. per lb. and very scarce; horses, $75 to $100 each; good mares higher and in good demand; mules, 15 hands high, going at $300 per pair. Lots of coal being mined in this county.
H. C. GRAYSON.
Whitwell, Tenn., April 11, 1903.

Five miles southeast of Harmony Grove, in Jackson county, in a strictly agricultural section. Products are cotton, 9¾ to 10c. per lb.; corn, 70 to 75c.; wheat, $1; oats, 60c. per bu.; sorghum syrup, 35 to 40c. per gal.; sweet potatoes, 75 to $1 per bu.; butter, 12½c. per lb.; eggs, 10c. per doz.; chickens, hens, 25 to 30c. each, and garden vegetables. Live stock prices: Western mules, $125 to $175; home raised about $125; milch cows, $20 to $40; 2-months-old pigs, $2 and up; horses, $50 to $125; yearlings, $4 to $8 each; beef cattle, 3½c. per lb. on foot. Fodder and hay "way up." Crops in this section the past season were moderately good and not much provisions being sold from railroad stations. Most of the farmers in this section are away behind the times in their methods of preparation and cultivation; but few of them regular readers of the P. F. Lands are being worn out and washed away before they are cleared of trees and stumps, to say nothing of rocks. Not one farmer in twenty has a disk harrow, about one in four a mower and rake, and but one disk plow in five miles. The rains, heavy and almost incessant since December 15th, have retarded farm work, and very little preparation has been made for spring planting. Wheat is doing finely; is all the way from the "boot" to the ground, and, except the December sown, the stand is generally good. G. W. O'KELLEY, SR.
R. 1, Harmony Grove, Ga., April 11, 1903.

Located in north central part of the State, in Randolph Co. Have had plenty of rain, mud and slush the past winter. Farmers have been considerably behind with their work, on account of bad weather; having fine spring weather now, and oats sowing on hand; also gardening. Stock has wintered well considering the wet weather, which caused the fodder to be damaged. Randolph county has two railroads running through and another one surveyed. Huntsville, the county seat, ships a great quantity of coal; the county is well supplied with telephone lines. Prices: Wheat, 65c.; corn, 35c.; oats, 35c. per bu.; hay, $8.50 per ton; poultry, 8c. per lb.; eggs, 10c. per doz.; butter, 25c.; fat hogs, 6¾c. per lb.; sheep, $6 to $8; horses, $75 to $150 each. J. M. LAWRENCE.
Huntsville, Mo., April 11, 1903.

Located on the M., K. & T. R. R. 8 miles southeast from Columbus, the county seat of Cherokee Co.; 8 miles northwest of Galena, one of the largest mining towns in Southeast Kansas. Country very productive; health very good. Land sells for from $15 to $30 per acre; horses, $15 to $150 per head; corn, 50c. per bu.; hay, $8 per ton; potatoes, $1 per bu.; hogs, $6 to $6.25 per cwt.; eggs, 10c. per doz.; wages, farm hands, 75c. per day, and from $10 to $15 per month; hired girls, $1.50 to $3 per week. L. D. ARNOLD.
Columbus, Kan., April 10, 1903.

Located in northeastern part of Erath Co. No railroads nearer than 12 miles, but several thriving towns within 20 miles of us. Schools very good. Our soil is adapted to various kinds of farming. Last season was very dry, but we have had a great deal of rain this winter and spring, and has not been very cold. Best prospects for wheat and oats that we have had for years. Gardens looking fine. All kinds of feed high. Butter, 20c. per lb.; eggs, 10c. per doz.; potatoes, $1 per bu. Farming backward on account of rain. Papa has been a subscriber to the P. F. ever since I can remember.
OLLIA E. ATOR.
Lipan, Texas, April 9, 1903.

Located in Nelson Co., Ky., 39 miles from Louisville. Will be a late spring; farmers behind with their work; no fall or winter breaking done; just sowing oats and clover and planting potatoes. Wheat generally in good condition. Season favorable for blue grass and orchard grass, affording extra early pasturage. Have free rural mail delivery. Horses, $75 to $150; mules, $90 to $150 per head; hogs, $7.65 per cwt.; corn, 50c.; oats, 45 to 50c.; wheat, 70c.; clover seed, $7.85; millet, $1; alfalfa, $8.80 per bu. More alfalfa being sown this year than ever before.
A. L. ROBINSON.
Bardstown, Ky., April 13, 1903.

We are having a peculiar spring, from the fact that the snow left us at least two weeks earlier than usual, and we had some very hot days for March—85 in the shade for three days. The leaf buds were well developed on many trees, but now all is changed. There has not been any planting done yet, but some plowing has been done. We are in the infected belt of the foot and mouth disease of cattle, and it looks hard for the mountain pastures. LEE M. WILDER.
Hancock, N. H., April 13, 1903.

We are located in Tippecanoe Co., Ind., 9 miles southeast of Lafayette, the county seat. Good roads, free mail delivery. Wheat good; oats not up yet; corn and oats are pretty good price; hogs, $6.90 to $7.25 per cwt. Plenty of timber; good water. Having plenty of rain and snow all winter. Plenty of fruit in this section, although the peaches are killed by heavy frosts. Butter, 20c. per lb.; eggs, 15c. per doz.; chickens, 10c. per lb.; potatoes, 35c. per bu., and plenty of them. Land is well drained. Crops were good last year. Country is rather hilly for 8 to 15 miles around. Pastures are good. The P. F. is a good farm paper. MRS. T. J. GROVE.
Dayton, Ind., April 13, 1903.

We live in Northeastern Louisiana, in West Carroll parish. Farmers badly behind with their work, on account of so much rain. The rivers are rising and we expect to be overflowed in a few days. Roads have been impassable for three months. People just done picking cotton. Peaches all killed by cold in February. Corn and cotton are the money crops here, and none planted yet. Prices: Corn, 80c. per bu.; cotton, 9c. per lb.; horses, $15 to $125; cows, $10 to $30 each; flour, $4.45; meal, $3.25 per bbl.; meat, 15c. per lb. credit, 12¼c. cash; sugar, 5c.; rice, 8c.; butter, 25c. per lb. JAMES H. PAGE.
Floyd, La., April 11, 1903.

A very wet winter followed by beautiful spring weather. Farm work proceeding in good order. Considerable corn planted; wheat and winter oats promise a good crop where not injured by too much wet weather during the winter; clover looks well; new seeding of timothy and clover doing nicely. Prices: Horses and mules, $50 to $150; cows, $15 to $40 per head; hogs, any price asked; corn, 65c.; potatoes, $1 per bu. Large amount of land changed ownership in the last six months; 5,000 acres sold in this neighborhood; land advancing in price, unimproved, $3 to $6; improved, $10 to $30 per acre. Large flow of emigration and we are on rising ground. W. H. RANES.
Ranes, Ark., April 10, 1903.

Thursday was a busy day filling orders for all parts of the U. S. for berries, cucumbers, green beans, squashes, green peas and even Irish potatoes, and it was pleasant to know we have a home where all these products could be supplied for the Easter trade. I want to say that we have not yet one-twentieth of our lands in cultivation, but it is in virgin forest, mostly long leaf pine, which is now being rapidly sawn into lumber after the turpentine manufacturers have worked the forests for turpentine and rosin. Our melons will be ripe in May, and canteloupes early in June. I shipped some dewberries in a refrigerator box to Louisville, Ky., Thursday night. W. E. EMBRY.
Dade City, Fla., April 11, 1903.

Situated in Saguache Co., in the sunny San Luis Valley, 170 miles southwest of Denver. This valley lies between the Continental Divide and the Sangre de Cristo Mts. We are in plain sight of Mt. Blanca, the highest peak in the State. This is a very backward spring, but indications are fine for good crops, as there is an abundance of snow in the mountains. There was nothing raised last year because of drought; worst in 30 years for this section. Principal crops and present prices: Wheat, oats and potatoes, $1.50 per cwt.; wild hay, $25; alfalfa, $15 per ton; cows, from $25 to $50; horses, $50 to $125 per head; hogs, 6c.; butter, 30c. per lb.; land, $15 to $100 per acre; chickens, $6; eggs, 25c. per doz. MRS. W. E. JOHNSON.
Crestone, Col., April 9, 1903.

◆

A Fine Kidney Remedy.

Mr. A. S. Hitchcock, East Hampton, Conn., (The Clothier) says if any sufferer from Kidney and Bladder Disease will write him he will direct them to the perfect home cure he used. He makes no charge whatever for the favor.

◆

A Beautiful Light. — The subject of light is one that is always of vital importance in the home, and we are certain that many of our readers will be glad to receive the free booklet which is sent by the Angle Lamp Co., of 76 Park Place, New York, explaining the many advantages of the Angle Lamp. We are told on good authority that this light is vastly better than the old-fashioned lamp, because while as brilliant as gas or electricity, it requires almost no attention and is very economical. It might be well for our friends to investigate this light, and they can do so with the assurance that the manufacturers are absolutely reliable and fulfil all promises. Be sure to mention the P. F. when writing to this company.

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THE KEYSTONE TO SUCCESSFUL FARMING

Published Weekly By
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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

How to Make Clover Grow on Sandy and Prairie Land and in Dry Sections.

W. M. Wade, Cass Co., Mich., kindly writes us how he succeeds in growing clover on sandy land. The soil is very sandy in that part of Michigan, with no clay hard-pan under it. Unless one can grow clover on such soil it is hard to keep up the fertility. Our friend writes that he has no difficulty at all in getting good crops of clover. He sows on corn stubble without any nurse crop. He goes over the land twice with a spring-tooth harrow, when it gets dry enough to work nicely in the spring. Then the clover seed is put on with a seeder and covered with a fine-tooth harrow. When the weeds get well started, along in June, he mows them off and leaves them on the field, of course being careful to not bunch them up so any clover plants will be smothered. This is the whole story in a few words; but it is a story of great value to farmers living on sandy land, or where it is difficult to get a good stand of clover on account of a lack of rain. It is substantially what the writer has advised at Institutes all over the State of Minnesota, where there is difficulty in making clover grow. Some of the soil is sandy; some prairie. The plan is equally good for both kinds. Lack of moisture is one great trouble there. The crop starts and then is injured by dry weather before it gets rooted deeply enough to reach permanent moisture. Now how does sowing on corn stubble help the matter? Well, one makes a nice seed bed on the surface two or three inches deep, and puts the seeds in it. They sprout and the roots start downward. Almost at once they get into solid earth, the lower part of the soil that was turned over for corn. In this solid ground capillary action can take place. Water is creeping up slowly from below as long as any is left. Water will rise through this solid soil; it will not rise through loose soil. Supposing you sow on sandy, or prairie, soil that was plowed and rather loose to the depth of the furrow. The plants start; then a dry, windy times comes. The moisture dries out of the loose soil down under the roots and around them. Then they die. When the seed is within an inch or so of solid ground such a result can hardly take place. The roots will get into the solid ground and find moisture. It will be well to add that on sandy and loose prairie soils the seed should be put down about two inches deep; some say even deeper. I would not work the corn stubble more than three inches deep. And it should be harrowed over once as soon as dry enough to work in the spring, to check the evaporation of water. Then later, put on the rest of the tillage. Make the surface very fine and nice. Mr. Wade sows no nurse crop, and mows off the weeds when they get well started, say about eight or ten inches high. This is a great point on land where there is a lack of moisture, or in dry regions, and also where the soil is not very rich. A nurse crop takes plant food and water out of the soil, just what the young clover plants need. If there is enough for grain crop and clover, too, all right. Often there is not. Then the clover has a better chance sown alone, provided one does not let the weeds grow. In round numbers it takes from 300 to 500 tons of water out of the soil to grow a ton of dried oats, or wheat (grain and straw together), or weeds. In a dry section, or a dry soil, clover needs this water. Leaving out the so-called nurse crop and mowing off the weeds early in their growth saves it for the clover. It does more. The clippings of the weeds make a fine mulch on the surface, which tends to check the evaporation of water from the soil. It also increases the available fertility somewhat. In a slight degree it is following out nature's way of increasing fertility. Grass grows up and dies down. Leaves fall from the trees. Thus nature slowly made prairie and upland fertile, saving the moisture at the same time with the mulch. These principles are as old as the hills, but in our haste we sometimes lose sight of them. Sometimes it might be best to mow the weeds off twice, clipping the clover a little also. It will tend to increase its root growth. In some parts of the North it is not too late to sow clover alone now. And these same principles can be applied in other ways. If you sowed clover seed with oats this spring, mowing them as soon as they head, for hay, will save water for the clover, and perhaps save a seeding that otherwise would fail. If clover was sown on your rye, or winter wheat, don't let weeds grow up in the stubbles. This is a point I was always very particular about. If the weather is dry in July and August this year many thousands of acres of young clover will fail simply because a heavy crop of weeds is allowed to grow up and take the plant food and water. Many P. F. people, however, now mow their stubbles. Study over these matters, my good friends. Profits in farming do not come from hit or miss work, as a rule. Learn the very best ways; then do them, and promptly on time. If other methods fail this year, perhaps it will be best to arrange to sow clover alone on corn stubble next spring.

Alfalfa in Kentucky. — Stacking Clover Hay. — M. A. Geier & Co., Carrollton, kindly write that they have had four acres of alfalfa on their farm for eight years, and are very much pleased with it. They say they have plenty of land that will raise from five to seven tons per acre in a season. They intend to sow 20 acres more this spring. They ask two questions, one, where can they find a market for the hay? The other, can they stack the hay out and cover with timothy, same as they do red clover hay? They say they have tried Cincinnati and other cities, but were told that such hay was not wanted. I am afraid I gave a wrong impression by telling what Mr. Wing got for a carload of the hay. There was no intention of leading people to grow alfalfa hay to sell. Mr. Wing would not do this to any extent. He cares too much about enriching his farm. But the alfalfa yielded so well that he had more than he had arranged to use. The market calls for timothy hay. It will not at present pay what alfalfa is really worth, by considerable, as a rule. Why remember, it almost equals wheat bran, ton for ton. And then its great value lies in its excess of protein, making it just the food to go with silage, or corn and stover, to balance up the ration. Arrange to feed it, friends, not to sell it. I do not know where the carload Mr. Wing sold went, but probably to farmers, or feeders of cattle.

Alfalfa is a clover and I see no reason why the hay cannot be stacked and covered, or topped out, with timothy, or marsh hay, the same as red clover. Certainly it can be if properly cured. Clover stacks can be covered with straw very nicely, if one hasn't wild hay. I think I should prefer it to timothy. I have covered quite a few stacks of seed clover with wheat straw. To do this put a load on the wagon, wetting each layer as it is loaded. Let it stand over night, if convenient, and soak up. When building the hay stack leave the top fairly rounded up, not topped out. If weather is favorable let it stand and settle a few days. Then put on the straw by carefully laying a course as far out as possible, with another above it and very slightly drawn in, and so on up. Take pains not to loosen up the forkfuls of straw, but have them come in flakes as far as possible, and then lay them flat and whip them down with the fork. The top of hay stack should not be so sharp that one cannot readily lay around on it. Put a good peak on the stack and fasten it well. No water will go through a top well put on in this way. Avoid tearing the forkfuls of straw to pieces when pitching from the stack onto the wagon, so far as you can conveniently. Having the straw damp helps much about laying it well, and particularly if the wind blows. It is well to put the top on when it is still, however, if you can. I have done it when the wind blew, but not as well. In fact this was the way I came to think of wetting the straw. The wind was blowing and it was threatening to rain, and we had some stacks that must be covered and could not handle dry straw. The idea of wetting it occurred, and it enabled us to cover our stacks securely.

Health Hints. — Cause and Cure of Stomach Troubles. — Twenty-three letters have come from friends suffering from what they call dyspepsia, indigestion, catarrh of the stomach, or some other similar trouble. What is the cause of this class of diseases? There are quite a number of wrong practices that may be. Here are some of the most important ones: Eating improper food, and over eating; eating too fast; lack of sufficient exercise; breathing impure air; overwork and worry; the wearing of clothes that prevent the full expansion of abdomen and at waist line when breathing; an inherited weakness of the stomach; weakening it still more by pouring into it poisonous drugs. Let us take these up one at a time and discuss them briefly. The constant eating of warm bread, of griddle cakes that are scarcely cooked at all on the inside, of rich cake, pies, spices, etc.; of a ration that is decidedly out of balance, thus causing the stomach to have to handle too much in the vain effort to get enough of some one element; of harmful adulterations in food, such as alum in baking powder, or bakers' bread, preservatives in canned goods, etc., all these things tend to harm the stomach. When we think how carelessly some people, in fact, most people, live, the wonder is not that some have trouble with their stomachs, but that any do not have. Overeating makes trouble because it overworks the stomach. This and eating too fast are very common mistakes. To eat naturally we should have food dry, like bread, and chew each mouthful until it is dissolved and made into liquid, practically, by the saliva. There are two necessary operations connected with chewing. One is to make food fine; the other to secrete saliva to mix with the food, which helps about the digestion of the starchy parts. When eating sloppy, or mushy, or soft food chewing is not necessary to make it fine, but it is just as necessary to bring saliva into the mouth to be mixed with the food. The moving of the jaws brings saliva into the mouth through the glands. This is a natural process and trouble is likely to come when food is hurried down without any regard to nature's law. The stomach is handled by muscles. When food goes in there it is churned and mixed with the digestive juices by muscles. If these muscles are strong, the stomach can do more; if weak, there is trouble. General exercise, enough but not too much, strengthens the body generally, the muscles of the stomach along with the rest. Their action is involuntary, but they sympathize with the general muscular system. If that is weak they will be. This involuntary muscular action, or rolling, or churning, of the stomach must not be impeded, if one wants to always enjoy perfect health. Clothes are unnatural. Civilized people must wear them, but they may be loose about the waist, supported only from the shoulders, so full, natural breathing (swelling out of abdomen and body at waist line) can take place and the natural stomach movement. Breathing impure, indoor air lowers the vitality, and lungs and stomach soon show it. Just notice, not a single case of stomach trouble was reported last summer, but late in winter they came in almost daily. The conditions were more favorable, you see; less pure air, more food eaten, less exercise. Worry, or overwork, will often start indigestion, as doubtless many friends have noticed. Learn to not go beyond your strength, and to be cheerful. We often hear it said that a person is no stronger than his weakest point. There is something in this, but I like to preach a better doctrine. You have inherited a weak stomach, we will say. Instead of settling down in the conviction that you never can do very much on that account, I would go at it systematically to make it stronger. It can be done, just as surely as you can make an arm stronger, but not as easily. The single exception to this will be where the lining of stomach has been destroyed beyond recovery by the use of drugs and other bad practices. This will almost never be the case, however. Nature is a wonderful healer. Only give her a fair chance. Case after case is reported where medicines have been taken and no lasting good done, and now they come to the P. F. Certainly. Medicine can never strengthen the muscles of the stomach, nor make a stomach roll naturally, that is constricted by the clothing. Medicine can never give you pure air and abundant exercise out in it. Pepsin may help you some about digesting a meal, temporarily, for example, but to

Farmer Fredricks: "Well, there she is, all safe and sound; wonder if I got what I ordered."

Who pays the freight?

Now is the Time to Think about Mowers, Hay Rakes and Feeders, Sickle Sharpeners, Hay Carriers and Stackers, Waterproof Canvas Covers for Haystacks, Implements, etc., Wagons, Cameras, Groceries, etc. Don't wait until the last minute. Think what you will need soon, and write us TODAY. If you will tell us what you want to buy we will send you a special catalogue on that article or articles free of charge.

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cure the trouble eat proper food, and not too much, nor too often, and chew it as you should, and nature will soon furnish all the pepsin needed and you will never know you have a stomach. Isn't this the better way to do? One good friend writes that the doctors tell him his stomach trouble can never be cured without taking medicine. All right; but when you get cured, actually cured, by taking medicine only, and without attention to the matters mentioned above, kindly let me know. Attention to the same matters without any drugs might bring a cure quicker, and without any danger to the delicate linings of the stomach. Never forget, my dear friends, that nature will cure, if it can be done, after you have removed the cause of the trouble. Medicine never actually cures. It may alleviate, it may assist a little sometimes, in the hands of a wise physician, and again it may not. Oh, that you might all learn that nature only can actually cure, and then go and help her. Eat only plain, pure food and chew it a long time, and then you will not care for too much. Often two meals a day will help wonderfully, giving the stomach rest and allowing it to store up some gastric juice ahead. Chewing so thoroughly, you will not care to drink with your meals, probably. If you do, don't use drink to wash the food down. Bending and twisting the body, and other movements that bring into use the muscles in the trunk, around the stomach, are very helpful. In simple indigestion relief may be obtained by careful attention to above methods in a few days. Serious cases of long standing will yield more slowly, as they are the result of years of improper living.

T. B. Terry.

Farmers' Convention.

Satisfactory progress is being made in the preparation of the programme for the East Tennessee Farmers' Convention to be held in Knoxville, May 21 to 23 inclusive. Among those who have agreed to be present and deliver addresses are Gov. James B. Frazier on "The Greatest Need of Tennessee;" Prof. Thos. Shaw, Professor of Animal Husbandry, University of Minnesota, on "Grazing vs. Stall Feeding" and the "Practical Judging of Beef Cattle;" Prof. W. F. Massey, Editor of THE PRACTICAL FARMER, on "The Cow Pea for Soil Restoration," and "The Development of Truck Farming;" Hon. W. W. Ogilvie, Commissioner of Agriculture, on "What the State is Doing for the Farmer;" Prof. W. J. Spillman, Agrostologist, U. S. Dept. of Agriculture, on "Forage Crops for the South;" Prof. M. O. Eldridge, U. S. Dept. of Agriculture, on "The Construction of Good Roads;" Prof. S. A. Mynders, Supt. of Public Instruction, on "The Rural Schools." In addition to the above several members of the Tennessee Experiment Station staff will deliver addresses covering specific experiments now in progress at the Station and of general interest to all the people of the Middle South. More than fifty of the most progressive farmers of Tennessee will read papers or lead in discussions. Those attending can be reasonably certain of hearing every one of the gentlemen mentioned, because they have all signified their intention of being present. The Farmers' Convention stands for education, for opportunity, and for progress in Southern agriculture. Do not forget the dates, nor the fact that the railroads give a single fare to the meeting. If your name is not on the mailing list, kindly send it to the secretary at Knoxville and he will gladly furnish you with a copy of the programme, which will shortly be issued.

ANDREW M. SOULE, Sec'y.
Knoxville, Tenn.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Home Mixing of Fertilizers. — F. H. Huntsberger, Democracy, Ohio.—"I am a farmer and one of the largest wheat growers in Central Ohio, and use fertilizers largely. Have come to the conclusion that home mixing will pay me. In referring to this with a fertilizer agent, a man of 25 years experience as a traveling salesman for fertilizer companies, he writes me the following letter." We make the following extract: "Many of those who advocate the home mixing of fertilizers are good practical fellows in some lines, but others are farmers on a salary or on a paper at so much a line. I do not believe any of them will meet the writer in a discussion of the subject on the platform or in the agricultural press. * * * * * The manufacture of fertilizers consists of more than brawn and mathematics. * * * * It is a scientific fact that plants do not appropriate nitrogen, phosphorous or potassium, neither do they in their first change, which is a union with oxygen, making ammonia, phosphoric acid and potash, but there must be another. Nitrogen must be in the form of nitrates, say of lime, potash, soda, etc. Phosphorous a phosphate of lime, potash, magnesia, etc. In every well-made fertilizer, that is, each brand put out by a good company, the raw chemicals have lost their identity and formed their unions, and are in condition for the plant's appropriation. The fertilizer is compounded, not associated. I therefore say that our formula of 10 per cent. available phosphoric acid and 2 per cent. potash will do more execution than a ton of 14 per cent. acid phosphate and 200 pounds of muriate of potash mixed at home." We who have been all these years advocating home mixing are doubtless, as your correspondent says, farmers. And we are not only farmers, but students of science. We do not know who your fertilizer man is, and do not care, for that matter, and are ready to meet his challenge at any time. There has been more done in the study and investigation of the home mixing of fertilizers at the Ohio Agricultural Experiment Station than anywhere else. These investigations have been made by scientific men whose sole interest is in the helping of farmers to better and more economical methods. It is perfectly true that pure elements are not used as fertilizers. Nitrogen is a gas floating freely in the air, and is important there for the dilution of the oxygen so that we can breathe it. Of course we cannot use a gas as a fertilizer. Nor can the fertilizer men use it in their manufactures, but must get it in combination with something else. Combined with oxygen merely, as your friend suggests, it makes nitric acid, a most powerful corrosive acid, and your fertilizer men do not use nitric acid to mix in their fertilizers. Combined, then, with oxygen, it does not make ammonia, which the fertilizer men are so fond of putting on their sacks, for ammonia is not an oxide, but a hydride of nitrogen. Nitrogen is found in the form of ammonia in fertilizers, and must go through the process of nitrification in the soil before it comes into the form of a nitrate. It is true that plants get nitrogen as a nitrate, but if the nitrogen in a fertilizer is all in the form of a nitrate very much of it will be lost before plants can use it, as nitrates very rapidly leach from the soil. Hence but a small part of the nitrogen in a fertilizer should be as a nitrate at first. The larger part should be in the form of organic matter to go through the nitrification in the soil and keep up the supply of plant food through the season. So, then, we find that the statement that the nitrogen must be in the form of nitrates is all wrong so far as the condition of the fertilizer as it comes from the factory is concerned. Then phosphorous is the element we seek in other combinations. We cannot use pure phosphorous because it burns on contact with air. We find it in combination with lime in the phosphatic rocks and in bones, and it is rendered soluble by sulphuric acid, forming the superphosphate of lime, and in this way a large part of the combined oxygen and phosphorous or the phosphoric acid is rendered available to plants. Then the potassium is a metal, and, of course, we get it in a combination of one part potassium and two parts oxygen, or, as it is then called, potash. This oxide is found naturally associated with common salt in the mines in Germany. Now the making of the superphosphate or acid phosphate, as it is called, is a chemical manufacturing process. The organic nitrogen is found in cottonseed meal, fish scrap, tankage, and other wastes from manufactures. Tankage is sometimes treated with acid by the manufacturers to make it more soluble, but it is of doubtful advantage. The potash salts are concentrated before they are imported to form the muriate and sulphate of potash, and also large quantities of the crude salt are imported in the form of kainit. Now all the manufacturing that is done is the preparation of these materials, and they are mixed in various proportions to make the different brands of fertilizers put on the market. The farmer can buy the nitrate of soda a natural product, he can buy the tankage, the cottonseed meal or the fish scrap. He can buy the muriate of potash and he can mix them in any desired proportions as well as the factories can, and can get as good results as from those mixed by machinery in the factory. Some years ago a periodical in the interests of the fertilizer factories stated that it cost the factories $6 a ton to mix the fertilizers and bag them for the market. This cost was made up by adding up salesmen's salary, postage, telegrams, advertising, traveling expenses, etc. All of these are legitimate expenses with the manufacturers. But how much of these will the farmer pay who mixes the materials at home? In the study of the effects of the various fertilizers the Experiment Stations never use anyone's brand except as a matter of comparison. But when we want to study the effect of different combinations we get the materials and mix them as we want them. The statement that "In every well made fertilizer the raw chemicals have lost their identity," is all bosh. No chemical action can be set up without the presence of moisture, and no change takes place in the mixture unless some caustic material is added, like fresh lime. In fact, it was shown in one of the Ohio bulletins that a factory mixed fertilizer in transportation did shake separate and that one portion of the bag analyzed differently from another. Any farmer can mix them just as well if he has a good barn floor, a sand screen and a shovel. Tell your salesman friend to come along with his arguments. Write to Dr. Thorne, the Director of the Ohio Agricultural Experiment Station, Wooster, Ohio, and ask him to send you all his bulletins on the maintenance of fertility and the home mixing of fertilizers, and you will get the truth of the matter.

March April May

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Forage in S. E. Ohio.—G. W. Winkler, Gibson, O. — "What would be the best crops for hay to get two crops a year and bring up the ground? Would hairy vetch and cow peas or corn and crimson clover sown at last working be better? Is there any good in Turkestan alfalfa and Beerseem clover? Could I sow velvet beans here with any success? Would Canada field peas do better here than cow peas?" No crop will improve the land if continually taken off for hay and no manure returned. The legumes accumulate nitrogen in the soil, but they draw heavily on the mineral elements in the land and will exhaust it of these as rapidly as any plant will. You can grow a crop of hairy vetch sown in the fall with wheat and all cut for hay, and then sow the land in cow peas. You are a little far North, but if your land is light and warm the peas will do very well there. Whether the Southern cow pea or the Canada field pea will be best can only be decided by actual experiment with both. You are a little far North for cow peas and a little far South for Canada peas. I have never seen any good success from sowing crimson clover seed in corn, though some claim to do so. Buckwheat is a good crop to sow it with. Turkestan alfalfa is claimed to be more hardy than the ordinary alfalfa and hence better suited to the far North. The ordinary kind is hardy enough for you. Doubtless you could get some growth on the velvet bean during the summer, but it would never mature with you. If the Beerseem clover is the same kind we tried here under name of Egyptian clover or Trifolium Alexandrinum, it is not worth while to experiment with it anywhere where it freezes in winter.

Sowing Peas.—Henry Race, Cornish, N. J.—"Will cow peas do as well if drilled on sod as on corn stubble? I would like to know at once before sowing oats." If you mean that you want to sow cow peas with the oats, we have to say that you cannot do so, as the cow peas should not be sown till the ground is permanently warm, or about June 1st. The cow peas will do as well on a well broken and prepared sod as anywhere.

Sweet Potatoes. — T. Korner, Portsmouth, Va. — "What was the matter with my Hayman potatoes? Most of them were strings. Land I put them on would make about 25 to 30 bushels of corn per acre. When I laid them by I put a mixture of one ton of acid phosphate to 500 pounds of muriate of potash, and used 500 pounds per acre. What would you do with the land, plant corn or potatoes? I got 150 bushels of merchantable potatoes from five and a half acres, and want to improve on that this year." You do not say what you put on the potatoes before planting. Then you applied 500 pounds of a mixture that was 20 per cent. potash muriate of 10 per cent. actual potash. This would have been all right as a total application in the beginning on land that had a good supply of humus in it. But the chances are that previous to the laying by you had applied a good dressing of a complete fertilizer containing a goodly percentage of nitrogen. An excess of nitrogen will cause the potatoes to do as yours did. Then you say nothing as to the nature of the soil. On a heavy clay soil the sweet potatoes are not usually as successful as on a thinner sandy soil. On the dark, moist soil so common around Portsmouth, we would apply no nitrogenous fertilizer whatever to sweet potatoes. The same land without any fertilizer will this year make a better crop of the "Haymans."

Grass Tufts. — McK. Bishop, Dublin, O.—"Horses and cattle refuse to eat grass on certain spots, mostly on black ground. It is June grass (the Ohio name for Kentucky blue grass) and has been in pasture for twenty years. Is this caused by the absence or presence of any element in the soil?" These rank spots are caused by the droppings of the cattle. Stock avoid them and the grass grows up strong and becomes tough and unpalatable. The remedy is to scatter the droppings as fast as practicable and then run the mower over the pasture to clip off the rank tufts so that tender grass may be produced.

Seeding to Grass.—W. T. Bispham, Pocahontas, Ark.—"I have a piece of bottom land, subject to overflow once in five or six years, and now under water. Made a good corn crop last year, the first time it has been cultivated for twenty years. Please advise what kinds of grass seed to sow for best results in permanent pasture, when to sow, how to sow and what amount of seed per acre." It will be too late for the grass sowing after the water has gone down, probably; in any event fall sowing will be better. You might get a good crop of pea vine hay off the land by sowing as soon as it is dry enough, not before the first of June. Cut these when the pods turn yellow, and then prepare the stubble thoroughly, by plowing and repeated harrowings. Sow in September the following mixture, per acre: Meadow fescue, 10 pounds; red top, 5 pounds; poa compressa, 10 pounds; white and alsike clover mixed, 6 pounds. Mix the grass seeds and sow them and then sow the clover seed; harrow lightly with smoothing harrow. Use no grain crop with it.

Silage Spoiling.—T. A. Graver, Kleckersville, Pa.—"I have a round stave silo which has always kept the silage well till this year. It has moulded 7 to 8 inches along the sides, and is all right inside. I put a good lot of water on it when cut. Is that the cause?" The water had nothing to do with the moulding, and the fact that it is right inside seems to show that the trouble is from air getting in at the sides.

Harvesting Canada Peas. — J. E. Lobaugh, Delight, Wash.—"How can I harvest a crop of Canada peas? We can grow them all right, and I can contract for a large crop if I knew when to cut and how to save them." Without having ever done anything of the sort we think that we would mow the peas when the pods are well yellowed, and cure for a time in shocks and then thresh with an ordinary thresher. We hope that some of our Canada readers who have had experience in the harvesting of these peas will give our friend the benefit of this experience, and also as to whether any special machinery is used.

Experiment Station Bulletins.—"Subscriber," Cincinnati, O.—"On page 217, in reply to J. A. Boettinger, of Ohio, you say, 'The citizens of Maine pay the taxes which support the Agricultural College and Experiment Station, both of which are for the interest and benefit of citizens of the State, and the officials have no right to send the publications to parties outside the State.' I was under the impression that these institutions were supported by the general Government. Am I wrong, or is the P. F. wrong?" Mr. Hunter is not altogether correct in the statement made. The colleges are mainly supported by funds from the general Government at Washington, from sales of the public lands. The States are required to provide the needed buildings and permanent equipment, as the U. S. money must be used for the paying of salaries. In some of the more wealthy States the State does add largely to the funds for the support of the College, as is done, for instance, at Cornell, while in other States the Colleges are entirely dependent on the funds from the United States Government for running expenses, and, in fact, seldom get as much money from the State as is needed for buildings and equipment. The Experiment Stations are supported by the appropriation of $15,000 a year to each State and Territory for this purpose made by Congress. As with the Colleges, in some States an additional appropriation is made to this fund by the State, but in most States the $15,000 from Washington is all they get, and no citizen of a State is called upon to pay a cent in taxes for the support of the Experiment Stations, except where they wish to do so through their Legislature. Any Station will send its bulletins when requested, if there are any available over the needs of their own State. Some Stations formerly made a practice of charging for bulletins sent out of the State to private individuals, but the authorities in Washington informed them that they had no right to do so, as no bulletin charged for could go through the mail free. It is well to have these things properly understood, for there are in every State farmers who imagine that they are paying taxes for the support of the Station, when it is entirely a gift to them from the U. S. Government. The bulk of the salaries of the College professors comes in the same way, and any State Legislature should be ashamed to refuse to provide the buildings needed.

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EDITORIAL NOTICE.—If you have the slightest symptoms of kidney or bladder trouble, or if there is a trace of it in your family history, send at once to Dr. Kilmer & Co., Binghamton, N. Y., who will gladly send you by mail, immediately, without cost to you, a sample bottle of Swamp-Root, and a book containing many of the thousands upon thousands of testimonial letters received from men and women cured by Swamp-Root. In writing to Dr. Kilmer & Co., Binghamton, N. Y., be sure to say that you read this generous offer in the Philadelphia Practical Farmer.

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The Place of Live Stock on the Farm.

H. P. MILLER.

There is no doubt that the immediate products of the soil will support human life longer and far more economically than if those products are worked over into animal products, as meat, milk or eggs. But in the production of human food from the soil there is a great amount of material produced incidentally that cannot be used for human food yet is suitable for the lower animals, and can, where used in this way, be converted into valuable food for the human family. Farmers must learn to utilize all of the incidental products. Very much of the great wealth of large manufacturing concerns has been made from by-products that were formerly wasted. No other great business could prosper under like wastes with those prevailing upon most farms. Much has been said of the necessity of feeding the soil under continuous cropping, and none too much, but under average conditions it is a great waste to mature a crop and turn it all into the soil. Sixty to eighty per cent. of the fertilizing value of a crop may be returned to the soil in the excrements of animals to which the crop is fed.

Live stock are, or may be made, the great conservors in the economy of nature. Man is the most wasteful of nature's resources. Until the time comes, and it is probably far in the future, that all of the soil will be needed to support directly the human family, very much that is not now profitable to cultivate at all may be employed in the support of the lower animals and thus be made to contribute something to man's comfort and support. Astoundingly vast resources in the particular mentioned are now going to waste, that live stock would enable farmers to utilize. This is especially true throughout the South, where the attention of farmers has been largely given to cotton and tobacco. The great need of the South is more diversified cropping and the keeping of live stock.

Sunbury, O.

Cattle Feeding at the Missouri Agricultural College.

A carload of two-year-old high grade steers fed by the Agricultural Experiment Station at the University, averaging 1,466 pounds, sold in Chicago lately at $6.85, which was more than one dollar above the top of the market for that day, and is the record price for cattle in any market this year. These cattle were purchased for the fancy New York trade. The leading live stock paper of Chicago referred to this sale as follows: "Standing up like the Eiffel Tower above other sales today was one of a load of fifteen prize Hereford steers averaging 1,466 pounds, which sold at $6.85. It was an exceptional load of cattle and the best seen here since the Fat Stock Show. They were fed by the Experiment Station at Columbia, Missouri, under the supervision of Dean H. J. Waters. The load attracted considerable attention for being so far superior to anything else on the market." These steers were purchased in the vicinity of Columbia at a cost of $4.10, for the feeding experiments conducted at the Station, in which the feeding value of cottonseed meal, linseed meal, and bran, in combination with corn, was compared with corn alone, on blue grass pasture. They have been on full feed since July 1st. These cattle were also used by the students in the stock judging exercises required of the students in the Agricultural College, and were used to impress upon these young men the importance of handling only high grade stock. Four of the best steers in the original bunch purchased by the Station were taken out last spring to go with a load of show cattle that won at the International Fat Stock Show at Chicago last fall. These steers were considered by all authorities to be the best and to be carrying the finest finish of any animals that have been on the market since the Fat Stock show, and were considered by some to have been capable of winning in that contest. The Station now has eighty high grade calves with which it is comparing the influence of age upon the cost of beef. One-third of these calves will be marketed next fall as yearlings, another third the following fall as two-year-olds, and the third bunch will be carried until they are three years old, a careful record being kept of all the food consumed during the progress of the experiment. The United States Government is co-operating with the Station in conducting this experiment, and has a special officer located there to collect data and report the results to the Government.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Sick Mare.—My mare walks around in the barn all the time; paws and strikes towards her belly with right hind leg. Lies down a great deal and stretches out and groans, and strikes with her hind leg. When she eats she paws and tramps as if she was walking, raising her feet, one then the other. She is weak and staggers some.

Toutle, Wash. FRANK PARKER.

Better stop feeding carrots and rutabagas for the time being and substitute oats and bran along with hay. It would appear that she may have constipation or some irritated condition of the bladder. If you notice that the pains come when she attempts to urinate you may be sure that there is bladder trouble and it would be well in that case to give her half an ounce of sanmetto and one drachm of fluid extract of belladonna leaves three times daily in half a pint of flaxseed tea. If she is constipated give her flaxseed tea to drink instead of water and avoid hard drinking water. Also give her in feed three times daily, if not giving the sanmetto, etc., a tablespoonful of a mixture of equal parts of hyposulphite of soda, powdered wood charcoal, ground gentian root and ground ginger root. If she does not care for food containing this medicine mix some sugar with it or mix with molasses and place on back teeth with a wooden paddle.

Fungus Growth. — I have a very fine Jersey cow which has sore foot. It is the right hind foot, just on the heel, and resembles a "seed wart," and is about the size of a silver dollar. Indeed, we have picked from the sore little particles just like we often see formed in certain kind of warts. The cow's foot has been in this condition more than three months and when first taken had a very offensive odor, which is still the case occasionally. At times the cow is a little lame in this foot, but seems in perfect health otherwise.

Chamblee, Ga. J. C. MANESS.

This is not a wart, strictly speaking, but a fungus growth similar to that which is so commonly found between the digits in steers or bulls. It seems to be the product of filthy conditions referred to and will have to be cut out. This is the best treatment and one that will prevent its reappearance, but if you cannot have the operation performed try an application of a paste of equal parts sugar of lead and arsenic rubbed up in a little glycerine. Smear lard around part before applying the paste and have wound cleansed and dried thoroughly before the application is made. In a few days a thick scab may be pulled off, and if necessary the paste may again be applied. If it is deeply enough cauterized after the first application, simply smear the sore with oxide of zinc ointment daily until healed, and during this time keep cow out of dirt and wet. The arsenic paste causes much pain, but it is the most effective treatment we know of apart from the knife for cancerous sores of this sort.

Feeding Horses.—I have one mare 10 years old and one mule about 9 years old, weighing about 1,000 pounds each. I feed, in winter, 10 ears of corn each at night and a bunch of hay; then 10 ears of corn at the morning feed and hay at noon. In the spring I feed corn the same (except when I have oats) and two bundles of fodder each at night and one and a half bundles each at noon, without grain. My mule has gravel foot, which causes her to be lame when driven out of a walk. Her foot becomes inflamed and she was so lame she could hardly walk, but I had it cleaned and probed by a blacksmith, and it has been easy for about six months now, but is still lame.

Chipley, Fla. D. D. PICKERING.

1. Your system of feeding is wrong. A hard working horse should have no hay at noon, but requires oats more than any other grain, and should have this food after drinking. Water should always be given before and not soon after any food. Corn is a good food for horses during cold weather, but in summer, as it goes to form fat and heat, it is quite unsuitable, and oats should be substituted for it. Bran should also be used freely with the oats. Hay should be given very early in the morning, before the oats, and again late at night after two hours time for oats to digest. If you will feed in this way we are sure you will have better results. 2. So-called "gravel" is merely suppurating corn of the foot from bad shoeing. Have the corn pared out then shoe with a wide-webbed bar shoe over a tar and oakum pack and sole leather sole. Blister the coronet in two weeks if horse does not go sound when thus shod.

Fistula of Milk Duct. — We have a heifer 18 months old, due to come fresh next November. She has a milk outlet in side of her teat, about two-thirds of the way down, as well as the regular outlet in end of teat. Would it be possible to grow this up before she freshens?

Concord, N. H. DUNN BROS.

If you can pass a milking tube into natural duct it may be possible to operate so that the false duct will become obliterated before she is fresh. There will, however, be considerable danger in attempting this and it might be well to wait until after calving although many prefer to perform such operations before calving. After inserting a milking tube in the perfectly cleansed and disinfected teat, cut with very sharp, small-bladed knife, a number of slits lengthwise of the teat and including the fistula. Let the cuts extend almost as deep as to touch the milking tube. The cuts will be like the leaves of a book if properly made. When this is done wrap the teat with surgeon's plaster and the job is complete. We usually dust the wound with iodoform powder before applying the plaster. Milking tube should be left in place for twenty-four hours after the operation, or a lead teat dilator may be used in preference. Remove milk three times daily with milking tube and at end of a week it will be possible to milk in the usual way without tube. At end of ten days remove the plaster with hot water and the wounds should be found closed and the false duct done away with. It is a neat bit of work, but often succeeds.

Lump Jaw.—Cow has a knot on her jaw; it began when in pasture, and is on her right under jaw; it appears to be on the bone. The skin has always been loose. It broke about March 25th; has run some. What is it? What can I do for it? Is it lump jaw? Will it prove fatal?

Oakdale, N. C. F. L. SPOON.

We think lump jaw is present and in time it will involve the jaw in a serious way. At the same time, an examination of lower molar teeth should be made, as such tumors are often due to a diseased tooth, which may be removed. If a tooth is the cause there will be a sinus (pipe) running from the roots down into the bone and connecting with the discharging sinus. It will be necessary to trephine the bone from below, besides removing the tooth, so as to secure free drainage. If the tooth is not involved the bone will have to be trephined from below and well scraped, then swabbed with a saturated solution of corrosive sublimate containing one drachm of hydrochloride to the ounce. This may also be injected two or three times a week afterwards until the sinus heals up. In bad cases iodide of potash is to be given internally in one drachm dose twice daily until animal is thin, has scurfy hair, loss of appetite, discharge from eyes and nose, etc. The iodide cannot be safely given to pregnant cows and will also dry up the milk. Such cases do not prove fatal unless disease runs to a condition which precludes eating and mastication of food.

Catarrh.—I bought three sheep, two ewes and a ram. When I got them home I noticed one of the ewes was running at the nose—a thick yellowish discharge, which sticks in the nostrils and makes her breathe hard. Two other ewes have the same disease.

Waterloo, Pa. R. O. RHINE.

The discharge referred to is caused by irritation due to the presence of grubs of the sheep gad fly in the nostrils and sinuses of the head and will disappear when sheep are on grass for some time. Little can be done to cure the trouble while grubs are present, but sheep should be generously fed on crushed oats and bran, even on grass, and in this food, twice daily, if sheep are weak, mix a teaspoonful of a mixture of equal parts of salt, dried sulphate of iron and gentian root (ground). Syringing the nostrils with weak tobacco tea or zenoleum solution sometimes helps to rid the sheep of such grubs as are in the nostrils. Smearing the noses of sheep during fly time with a mixture of pine tar and crude carbolic acid or oil of tar, serves to keep the flies away. Some shepherds do this by filling large auger holes in a squared log with salt and smearing tar about the holes. By this plan the sheep daub the tar on their noses when licking the salt from the holes.

Chronic Cough.—I have a horse which is seven years old. One year ago he commenced to cough, and has had a cough ever since. Last summer I kept him in a basement which was somewhat damp. I fed clover hay which was quite dusty; then I fed him grass for about two months, but still the cough hung on. His feed the past winter was corn stalks and corn on cob.

Lockport, N. Y. S. H. STEDMAN.

The horse is apparently afflicted with chronic laryngitis, and it would be well to slightly squeeze the throat back of the ears and see if it causes distress and immediate coughing. If this proves to be the case clip the hair from ear to ear and blister with cerate of cantharides. Give internally an ounce of glycoheroin every four hours until well. Food should all be sound and free from dust and we would prefer oats and good hay to corn and fodder. Clover is usually unsuitable. Green grass should prove excellent for him. Be especially particular to see that stable is well ventilated and free from noxious gases exhaled from decomposing manure.

Injured Hock.—I have a horse that is injured in the hock joint; there are large puffs both behind and in front of joint. Is very lame, especially in going up hill. Horse is 12 years old. Injury caused by getting his foot fast then jerking it loose.

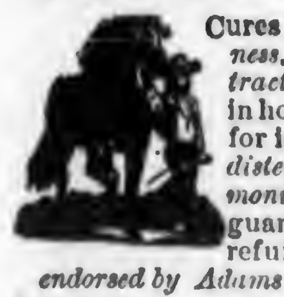
Farmington, Mo. E. K. BOORD.

There is good hope for the horse if you can have the joint properly fired and blistered by a qualified veterinarian. Then allow six weeks absolute rest tied up in a narrow stall where he cannot lie down or bite part. It may be necessary in this severe case to fire twice if the first firing does not remove all of the lameness. If you cannot have it fired, then clip the hair from joint and blister twice a month with cerate of cantharides, two ounces; biniodide of mercury two drachms; mix. Rub it in for 15 minutes by the watch. Wash blister off in two days, then apply lard daily to the blistered part.

Eye Trouble.—I have a spirited mare which is in foal, and for some time has appeared dull. About a week ago her right eye began to swell and has swelled nearly shut, and now the other eye has swelled quite badly. From her actions I should judge her eyes pained her, especially when she is out of the barn.

St. Helens, Ore. J. S. MILLARD.

We should say that the mare is afflicted with periodic ophthalmia, which comes on about once a month and is incurable, causing blindness of one or both eyes after a number of successive attacks. At the same time the mare may be suffering an attack of pink eye, which causes the eyes to close, the eyelids to become very red and the legs to stock or swell. As she is in foal it would be unsafe to give her internal treatment, but you should place her in a roomy box stall and cover her eyes with a soft cloth, to be kept wet with a solution of one drachm each of sulphate of zinc and fluid extract of belladonna leaves in a quart of soft water. The feed should be simply bran mashes, green grass and hay. After the inflammation subsides should you notice that the eyes are milky in appearance, as if covered with a scum, you may be sure that it is periodic ophthalmia and should paint the eyes once daily with a solution of two grains of nitrate of silver in an ounce of distilled water and keep her in a darkened stable. Mares afflicted with periodic ophthalmia should not be used for breeding purposes, as the disease, or a predisposition to contract it, is transmitted to the progeny.



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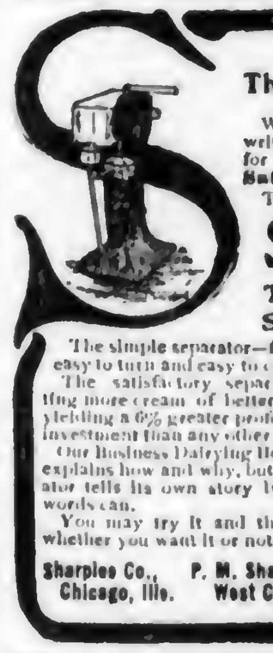

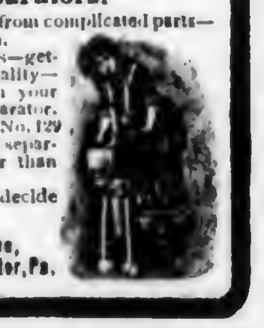

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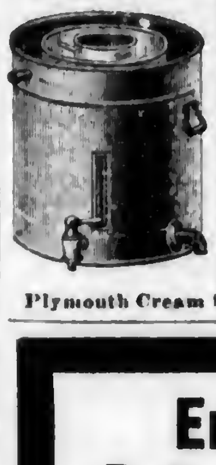

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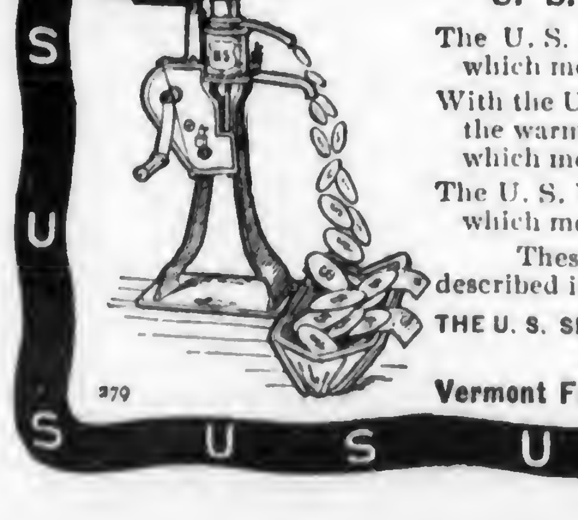

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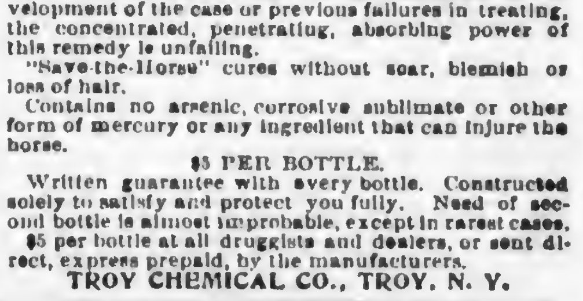

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THE GARDEN.

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Talks on Timely Topics.

Parsnips.—When you have fresh seed it is no trick to grow parsnips. When you use old seed, you will invariably fail, for old parsnip seeds won't grow. Besides salsify, parsnips are the earliest spring vegetable we have. The crop is usually left in the ground over winter, but just as soon as the frost is out of the ground, we want our parsnips, and properly cooked, they are very enjoyable. And the call for them in market is usually such that "parsnips pay" even for market. Of course, the crop takes the entire season. We sow seed early; in fact, as soon as the ground is freshly prepared, and we aim to have the plants rather thickly in the row, say a plant to every two inches. Last season my plants stood further apart, as they happened to come up scatteringly. But what monstrous roots they made! I have a lot of Zunipfer, a new variety, that shows specimens 15 inches long, and 4 or more inches across at the top. Yet they cook nice and tender. One of those big roots makes a meal for the family. All varieties, however, are serviceable, and I have never noticed much difference in the flavor. This year Wm. Henry Maule offers the new White Lisbon parsnip among the novelties. He says it is fine-grained and of superior flavor; in fact, better than any parsnip he is acquainted with. We will have to try it, of course. Parsnip is one of the vegetables of which I always try to raise my own seed. It is an easy thing to do. All that is necessary is to set a plant or two, or leave it right in the ground where the crop was grown, and gather the seed when ripe. Then you are sure of having fresh seed.

Horse Radish Sets.—I prefer rather long sets for starting a horse radish patch, and would rather have them eight inches in length than less. Yet the sets ordinarily used or obtainable are from 4 to 6 inches long, and in experiments made at Cornell Station (Ithaca, N. Y.) it was shown that good roots can be grown from sets only one inch in length. With sets of ordinary length I would put the top of set 3 or 4 inches below the surface, and still deeper with shorter sets.

Good results, says the American Agriculturist, "Can be secured by planting the sets either vertical or slanting. In some parts of Europe they are always planted slanting, the top end being an inch deep and the lower end 3 or 4 inches deep. During the summer, each plant is uncovered and all the small side roots are rubbed off with a woolen cloth. If any large roots have to be removed, they are cut off and the wounds covered with powdered charcoal to prevent decay. After this operation the soil is replaced about the plants, which are then allowed to grow undisturbed until the end of the season. Where this method of culture is practiced, it is customary to use sets 12 inches long. As ordinarily grown in America, horse radish roots are neither uncovered nor pruned during growth, though they are frequently planted obliquely."

I usually plant my horse radish in the old way, vertically, and let them grow as they wish. Of course good cultivation should be given until the tops cover the ground.

Current Comments.

German Carp.—A reader, Chas. Fitch, Ludington, Mich., wants to know who can tell us where German carp, to put in a private pond or lake, can be purchased or procured.

Early Sweet Corn. — A reader in Sharon Springs, N. Y., writes: "Last season, May 6th, I planted Earliest Sheffield corn; May 12th Premo and Kendal's Early Giant. Premo, thus planted one week later, was 15 days the earliest, and even Kendal's Giant was five days earlier. Sheffield was claimed to be as early as Cory and as hardy as Adams, and even Dr. Van Fleet assured me that there were none earlier. This spring I am going to plant the Adams, Premo, First of All and Cory, and if weather is warm, I wonder if it be advisable to plant Adams the last week in April. Burpee says, plant when the buds start to swell on the maple tree." I do not value the Sheffield corn as highly as its introducer. In fact, I have discarded it again after two or three trials. It is not early. It is very tall-growing, and the ears are not in proportion to the size of stalks. Premo is all right. Most of these very early sorts are half-hardy. I have known them to go through a pretty stiff night frost unscathed. If you have a nice, well drained, warm loam, and the weather is favorable, I think it would be advisable to plant latter part of April and run some risk. There may be a frost later severe enough to kill the young corn, and call for replanting, but the chances are in your favor. I shall plant early sweet corn just as soon as soil gets once thoroughly warmed.

Plant Cloth.—Wm. Rapp, Urbana, O. —"Kindly tell me what kind of cloth, also what grade or thickness of cloth is best to use for growing cauliflower. I expect to plant the seeds about May 15th. Much of that planted June 15, 1902, was too late." Cloth of this kind, no matter what thickness or quality, seems to last only a single season of exposure. We prefer, therefore, the very cheapest kind of cheesecloth. It is quite a job to construct a framework and stretch the cloth over it, just for the purpose of growing cauliflowers. This crop, however, has been found the only one, thus far, for which the cloth protection shows material benefits and possibly profits. I am somewhat disappointed in my trials of cloth covering for celery and lettuce, etc., and am not going to use it to any great extent the coming season, but shall rather rely on good cultivation and mulching. In a season of extreme heat and dryness, probably the benefits from cloth covering will be more marked with some of these crops. In this vicinity, cauliflowers started from seed the middle of June, if early varieties, such as Snowball, Early Erfurt, Maule's Prize, etc., are selected, will usually have ample time to make good heads.

Great Laying Plymouth Rocks.—Our readers who desire to increase the laying qualities of their flocks will be glad to have their attention called to the advertisement of eggs for hatching of J. W. Parks, Altoona, Pa. His line Barred P. Rocks have been bred especially for egg-production and made a record of 198 eggs each in a year, and a sitting of such eggs will give a cockerel for next year's breeding that will greatly improve a flock. Write him for circular and mention the P. F. when writing.

Society of Christian Endeavor, Denver, 1903.

The Passenger Department of the Chicago & North-Western Railway has issued a very interesting folder on the subject of the Christian Endeavor meeting to be held at Denver, July 9th to 13th, together with information as to reduced rates and sleeping car service, as well as a short description of the various points of interest in Colorado usually visited by tourists. Send 2-cent stamp to W. B. Kniskern, Passenger Traffic Manager, Chicago, for copy.

IRON AGE Book Free describing one and two horse cultivators, Potato Planters, Wheel Hoes, Seed Drills, etc. Bateman Mfg. Co., Box 101, Grenloch, N. J.

Acme Harrows Indestructible. Cheapest because the best. Send for cat. DUANE H. NASH, Sole Mfr., Millington, New Jersey, and Chicago.

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THE AUTO-SPRAY best for all hand work. No continuous pumping. Compressed air runs it to spray ½ acre of vines. Boy can carry and operate. All working and contact parts of brass. Long line of high grade sprayers for every purpose shown in Catalog A. It is FREE. Write at once if you want the agency. E. C. BROWN & CO., ROCHESTER, N. Y.

Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Creeping Evergreens for Cemeteries.

Just what to plant on a grave is a puzzle to many. As a rule, some annual flowers are set out, especially for some years following an interment; and cases are often met with where the custom is followed for a long term of years. In many cemeteries it is the prevailing custom to cover the graves with some green creeping vine or plant. The sorts most used in this vicinity are English ivy, periwinkle and stone crop. In Laurel Hill cemetry, Philadelphia, English ivy is much used. Some half dozen or more plants are set out and trained as they grow, and in a very short time the grave is a mass of green. Periwinkle does the same. Both of these plants form a permanent bed of green. Care is needed to detect and destroy weeds as they may appear, for if permitted to become strong they are difficult to get out from between the ivy and periwinkle. The ivy may not be hardy enough to use far North. It is at home about Philadelphia, and when used on graves or in any position near the ground, it will stand more cold than when in an upright position. All the plants named are better set out in the spring than any other time, getting well established then before winter comes. Where the yews are hardy, as they are in Pennsylvania, the Irish, or upright growing one, is one of the most satisfactory evergreens where pairs are required. Their slow growth and pyramidal habit are much in their favor, to say nothing of their dark green foliage.

Garden Flowers.

Those who deal in hardy plants tell us that the past year or two has witnessed an extraordinary increase in the demand for old-fashioned garden flowers, as well as the newer ones of later days. There is much in the associating of many of these old plants with childhood days which has awakened a demand for them. The old columbine, hollyhock, larkspur, veronica, snapdragon, wallflower, pinks and like sorts are known to almost all of us as having been cherished by us in our younger days. There is room for these plants in one's garden. Coming up year after year they become as old friends, and their appearance in early spring is hailed with pleasure. We cannot do without our geraniums, verbenas, scarlet sage, coleus and similar greenhouse plants. These, too, are as dear to us as old friends as the hardy ones are, besides that when properly arranged in beds they give us a continuous display, producing, when properly arranged, a harmony of colors, making a beautiful picture of the whole. The attention given to hardy flowers by florists and nurserymen and the dealers in seeds has resulted in the introduction of a very rich assortment of them and it is now quite possible to have a collection to give flowers one after the other from early spring until late autumn. A little attention to these plants in the way of covering with leaves or manure in winter, keeping the soil stirred up about them in summer and general attention which will suggest itself will result in increased splendor of flowers. In many cases the saving and sowing of seeds is advisable, larkspurs, sweet Williams, hollyhocks, fox glove and some other sorts almost of a biennial nature doing much better from young plants than old ones of long standing in the garden.

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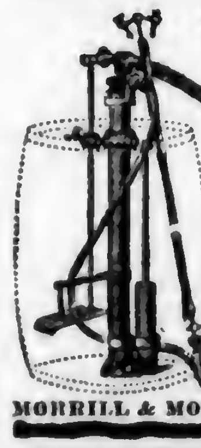

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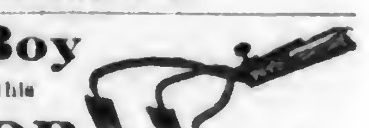

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Grafting Oranges.

A correspondent from Virginia, G. Crossley, wrote us recently inquiring if oranges could be grafted, as he had some seedlings he desired to transform to valuable kinds. Grafting can be done just as any other fruit is, cutting the plant down to about six inches from the pot and then cleft grafting it. The time to do it is in spring, about the time new growth is starting. Budding is generally very successful. This is done towards the close of the plant's growth for the summer, while the sap is still active, otherwise the bark cannot be lifted to insert the bud.

Horticultural Notes.

Early Apples. — In the line of early apples, which are often asked for by correspondents, Red Astrachan, Tetofsky, Yellow Transparent and Williams' Favorite are very good varieties.

Dogwood.—If you have room for something new, set out a pink flowered dogwood, a variety of the large white flowered one. It's grand. In many catalogues it is listed as red flowered, but it is really pink.

Crimson Ramblers. — Everybody that has room should have a Crimson Rambler rose. Those unacquainted with it have no idea of its grandeur. Of the richest color, the flowers are in clusters of hundreds on one bunch; and it is very hardy.

Rubber Plants. — When rubber plants are too tall, take them out of pots, at the end of May, plant them almost on their sides, and layer the top. By September, a thrifty young plant will have developed from the top, then both it and the parent plant are to be potted; two nice plants are the result.

POULTRY.

This department is under the editorial charge of A. F. Hunter. All letters, inquiries and requests should be addressed to him at the Practical Farmer office, P. O. Box 1317, Philadelphia.

Feeding the Chicks for Growth.

The first two weeks of a chick's life have much influence upon its future, and will determine whether it is to become a strong specimen or a hopeless runt. If care has been taken to select the eggs from good, strong, vigorous stock, well cared for, a good hatch of sturdy chicks may be expected. A good coop for the hens and chicks should be ready, or the brooder should be warmed up and in good running order. The downy little things will be ready to take from the nest or go to the brooder in twenty-four to thirty-six hours after they are hatched, and should have their first meal then. When it is possible to do so, it is a good plan to take off the hen or put the chicks in the brooder in the afternoon, then they will go to bed soon after having the first meal and there is less danger of their getting chilled. If they are put in a brooder, have the floor littered with chaff or cut clover, in which a supply of chick grit has been scattered. When the chicks are first put in, remove the hover and allow them to scratch about and pick up some of the grit before they are given their first food. There are a great number of good foods, but the one that gives the most satisfaction, under nearly all conditions, is a good dry food, made up of a large variety of grains and seeds. The dry-grain chick food is scattered in the litter and the chicks are made to scratch for it. This encouraged exercise is most beneficial for the chicks and helps to keep them strong and hardy.

The use of a dry food in this manner has the great advantage that it keeps the digestive organs of the chicks in proper tone and condition. Where soft, easily digested food is used there is a tendency on the part of the digestive organs to slight their natural functions, and in many case the walls of the gizzard will not become sufficiently toughened, and are soft and flabby. When hard, dry grains and seeds are used—which is nature's way of feeding—the digestive juices are called into play, and the muscles of the gizzard are given plenty of exercise. This means strong, healthy, well developed digestive organs, and a chick so grown has a great advantage over its less-well-fitted brother.

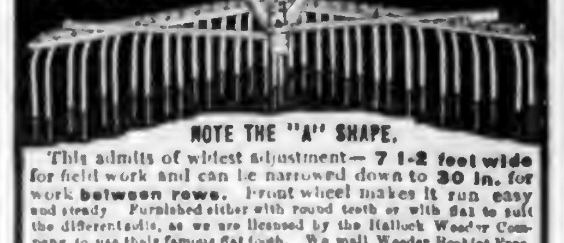
There are a number of methods of feeding young chicks which give good results in the hands of those who are experts in the use of them. The next best method to exclusively dry feeding is the use of a well baked Johnny cake for the first week. A formula which has given good results in the hands of practical men is the following: 2 quarts of bran or shorts; 2 quarts of coarse corn meal; 1 quart of wheat middlings; 1 handful of good, clean beef scraps; 1 handful of good chicken grit. Rub together dry with from two to four infertile eggs. Mix with barely enough skim-milk to moisten it, and rub the whole into a moist, crumbly mass with the hands, then put in a well greased pan (a roasting pan about three inches deep is the best) and press down hard to stick the cake together. Bake in a slow oven for three to six hours. A long, slow baking is an important factor in making a good Johnny cake. This makes an easily crumbled cake, and, when properly prepared, should have no stickiness or doughiness about it.

A popular first food with some is a mixture of cracker and bread crumbs rubbed up with hard boiled eggs chopped fine, with no other moisture than that in the eggs. After the chicks have each had a chance at the first meal, the hovers should be put on and the chicks tucked under them. The little chicks will need food four or five times a day (every two and a half to three hours) for the first week. All dry grain mixtures should be fed in litter to induce scratching, and where the soft feed is fed, some mixed dry grains should be fed in the litter to give variety and to promote exercise. Cut clover and shredded or fine cut corn fodder make the best litter for small chicks, but chaff and cut straw answer the purpose very well. Where chicks are intended for market they should have a concentrated mash food after the first two weeks, to force growth; where the chicks are intended for breeding purposes the method of feeding dry grain exclusively is probably the best.

Little chicks should always be kept a wee bit hungry, and should never be fed more than they will eat up clean and quickly. There is less danger of overfeeding chicks, getting them "off their feed" or "down on their legs," by use of the dry grain mixture than with the more quickly digested soft foods. The chickens should have plenty of fresh water and sunlight if they are to do well; pure water should be always before them from the start. If the weather is cold the water should be warmed sufficiently to take the chill off. Whenever chickens drink enough water to injure them, you may be sure that it is because they have been permitted to go without water so long that they have become very thirsty, or because they have been overheated in poorly ventilated brooders. After the first few feedings chickens should be fed a variety of food; the dry grain chick foods give this. Where other methods are employed they should have, in addition to their Johnny cake and mash foods, feedings of cut or rolled oats, cut wheat and granulated corn (this is fine cracked corn with the coarse pieces and the fine meal sifted out, and is known in some localities as "corn grits"). Where a good chick food is used a little finely cut fresh bone, or pure beef scrap which has been steamed or barely moistened with scalding water, should be fed each day after the chicks are a week old. The chicks should, after they are four or five days old, have one or two feedings a day of some bright, fresh, green food, like lettuce, cabbage or the fresh green shoots of sprouted grain. Where possible, give the little chicks a clean grass run with part shade. After the first two weeks four times a day is often enough to feed. It is a mistake to feed too much or too often. The chicks need a little time between meals to work and get up an appetite; with most people there is more danger of overfeeding than of starving them. If the chickens appear dumpish and do not take hold of their food eagerly, try lighter feedings and add more grit to their food; a little grit in the food will often work wonders.

Until the chicks are ten days or two weeks old they will be fed practically the same, whether they are intended for market or for use as stock birds. If they are started right the battle is half won. After the second week, the manner of feeding and caring for them depends on whether they are intended for market, or whether they are to become layers and breeders. If all are treated alike and the careless grower makes his selection of laying and breeding stock out of his "pushed-for-market" flock it will steadily weaken his poultry, and he will, in a short time, find himself confronted with some of the many poultry troubles which result from failure to use judgment. By the end of the fourth week the feedings should be cut down to three times a day. After the end of the second week a little mash food should be fed once a day. Later, from the third to the fourth week, as the chicks become accustomed to the soft food, mash should form two-thirds of the daily food; preferably feeding soft foods morning and night, with a good dry-grain chick food scattered freely in the litter at noon.

Be sure that there is always some scratching food in the litter, to keep the chicks busy, so that they will never be disappointed when they are scratching for a seed or bit of grain; but do not waste the food. For soft food use a mash made up of bran, corn meal, meat meal (or beef scraps) and just enough middlings to stick it together without guminess. The mash should be made half bran at the start, gradually decreasing the amount of bran and increasing the corn meal and beef scraps as the chicks begin to reach the desired size and plumpness. Wet the mash up with clover tea made by pouring scalding water over good, green, shredded or cut clover; add clover and all to the mash. It is preferable to stop feeding green food a few days before killing for market. Should the chicks show a pale, white skin and fail to "yellow up" they may be made more presentable by adding a little cottonseed meal to the mash for about ten days previous to killing. This will put the desirable yellow into the fat beneath the skin. In some markets the color of the skin makes no difference in the price. The time required to grow chicks to market size will depend largely on the grower, the food and the breed. In a general way, it may be stated that squab broilers can be ready in from thirty-five to fifty days; broilers from fifty to seventy-five days, and the roasters from eight weeks to four or seven months, according to the weights desired. Chicks intended for breeders should not be forced for growth. They should be encouraged to exercise by keeping a good dry-grain chick food in their litter all the time. They may be kept on a chick food for eight weeks, or after the second week may be given some whole wheat, sifted cracked corn, hulled oats and some good scratching food. They should not have mash oftener than once a day. A good mash formula is: 3 pounds of corn and oat chop, 3 pounds of bran, 2 pounds of fancy middlings, 1 pound of meat meal or good beef scrap. Mix dry and wet up into a crumbly mash with scalded cut or shredded clover. The mash is not cooked or scalded, but is mixed up with the wet clover which has been allowed to steep in scalding water. After the chicks are weaned from the brooders and located in colonies on grass land, they may be fed on a variety of good sound grains, with a good mash once a day for five days in a week. It should be borne in mind that to be successful in growing chicks, as much depends on the man who carries the pail as on the food and the breed. Good, common-sense care, combined with a variety of wholesome food is sure to give good results in sound, healthy stock, if the chicks are out of eggs of the right sort.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The Practical Farmer.

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Published Weekly by The Farmer Co.
P. O. Box 1317
S. E. Corner Market and 18th Streets
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Entered at the Philadelphia post office as second-class matter.
PROF. W. F. MASSEY, Editor.

Philadelphia, May 2, 1903

In noting the change of address of Dr. A. S. Alexander, the Editor of the Veterinary Department, at the head of the same, it was inadvertantly made to read Milwaukee instead of Madison. His address is 811 Spaight St., Madison, Wis.

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Postal Card Special.

The May 30th number of the P. F. will be a Postal Card Special, the front part of that number to be devoted to postal card communications from our subscribers. We want these postal cards to be summarized statements of the conditions of winter-sown crops, the spring seeding, and the general agricultural outlook in the neighborhood from which these postal cards will be written. They should be mailed not later than May 15th, and those written in the far West and on the Pacific coast two or three days earlier. As our subscribers live in every section of the United States and Canada, we want the Postal Card Special to be a condensed exposition of the agricultural situation in the United States and Canada. Include fruit conditions and prospects; also stock and poultry items, so that the reports will show the status of every important crop and live stock in all parts of the country. We will pay a cash prize of $5 for the best postal card received and published; $2.50 for the second best postal; $1 each for the next ten best; and 50 cents each for the next ten best. The regular prizes for postal card communications in that number will be suspended and these special prizes will take their place. We look to our friends to make this Special one of the most interesting and valuable numbers of the year, and to this end we ask them to be concise in their statements of conditions and products and prompt in the mailing of the cards. Do not use a lead pencil in writing these reports. We intend the Postal Card Special to be an authentic statement of the agricultural situation made up by the tillers of the soil in every part of the United States and Canada. Not only would we like the conditions of the crops and stock to be noted, but also the general feeling of the farmers; whether they are looking and working for a prosperous season. We want the Postal Card Special to be specially representative of the American Farmer.

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Permanent Pastures.

Judging from the host of queries that come to us in regard to the making of grass mixtures for permanent grazing, it would seem that there is a great deal more interest taken in this than formerly, and that farmers are gradually learning the damage that is done by pasturing the cultivated fields of the farm. But getting a sod is not all that is needed in a pasture. Land that is grazed on by all sorts of stock through the season will not continue to produce feed in abundance unless cared for. The principal draft on the pasture is from the grazing of young growing stock. These, having their bony frame to build up, draw heavily on the phosphoric acid in the soil and return less than the mature animals in their droppings. Even if no young stock is pastured it will be found of great advantage to give the sod a dressing of acid phosphate or raw bone meal. The bone meal will help both through the slowly available phosphoric acid and the quickly available nitrogen it contains. Hence to keep a pasture productive we must not rely merely on the droppings of the animals but must dress the sod annually. To start off the grass finely in the spring we have tried nothing that answers so well as nitrate of soda at the rate of about 100 pounds per acre, and if this is supplemented with acid phosphate we have all that most soils will need, while on light soils it may be of advantage to add some potash. Then the general treatment of the pasture is sadly neglected. The droppings are allowed to lie and around them grows coarse clumps of grass which the cattle avoid, and in these clumps the weeds start, and soon the pasture gets weedy. Go over when dry and scatter the droppings, and then run the mower over the field before the weeds start. It will pay to keep the pasture clean and uniform. It will carry far more stock than if neglected in the usual manner.

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Farming North and South.

Mr. Chamberlain, of the Ohio Farmer, is surprised and mildly indignant that writers from the South, and agricultural editors born there, should undertake to make any suggestions to the farmers in the agriculturally prosperous North. Now, we have a great admiration for Ohio and Ohio farmers. We know that there is good farming done there, and that the Ohio Farmer has been a power for good to them. But Mr. Chamberlain forgets that the population is more dense there, and there is no shiftless negro population to complicate the agriculture of the North, while in the South there is an excess of land over what the sparse white population can cultivate, and the land is largely parcelled out to negro croppers, whose farming Mr. Chamberlain has doubtless *seen*, as he says. But while there is more general good farming in Ohio, it is not the only place where good farming is done. Even in the poor South, which Mr. Chamberlain *thinks he saw*, there are farmers who need not be ashamed of what they are doing. We suppose that even in the "agriculturally prosperous North" a crop of 46½ bushels of wheat per acre would be considered a fine crop over an 80-acre field. And yet this crop was made down in North Carolina on a clover sod by the late Gov. Holt. Thirty bushels of wheat per acre from seed sown the middle of December after a crop of $50 per acre had been taken from the field the year before, does not look like bad farming. And yet Mr. Dautridge, of Edgecombe Co., N. C., did this after getting $50 worth of cotton per acre from the field. We suppose that 75 bushels of oats per acre would be thought a fine crop even in Ohio, and yet this crop was made in North Carolina, and the man who raised it cut two tons of pea vine hay from the same land after the oats were harvested, and left the land in crimson clover. In Maryland the late Gen. McKinney was assessed for taxation on one million dollars' worth of real estate made by farming since the War, and Capt. Andrew Woodall, of the same State, has become a millionaire at farming. In Georgia, Mr. Smith, near Athens, gets about $75,000 a year from his crops and is a millionaire. How many more millionaire farmers are there in Ohio? In Eastern North Carolina we have seen a field from which over 75 barrels of Irish potatoes per acre were shipped North in early June, a crop of pea vine hay grown on the same land by August and then a crop of late potatoes of 65 barrels per acre dug from same land in December and the land set in cabbages for the next spring. And these 1,500 barrels of second crop potatoes were all sold for seed to the "agriculturally prosperous North" before Christmas, at $2.50 per barrel, the field showing a yield of nearly $400 for the season per acre. Can you do that in Ohio, or anywhere else in the "agriculturally prosperous North?" We suppose that it would be considered a great wonder if a man got $3,000 an acre from land in Ohio between December and April, and yet the lettuce growers of Eastern North Carolina have been doing that for some time at a cost of about $500 per acre. If a man in Ohio got $900 for thirty crates of strawberries it would be heralded in the Ohio Farmer. And yet last December this was done in Eastern North Carolina from the open field. Mr. Chamberlain is justly proud of his apple orchard. But if he had attended the State Fair of North Carolina last fall he would have seen apples he has never yet seen. The judges at the fair on fruits were Prof. L. H. Bailey, of Cornell, Col. Brackett, of the Agricultural Department, and F. W. Taylor, of the St. Louis Fair. They said that they had never seen such a display of apples, and Col. Brackett said that such fruit grows only in North Carolina and on the Ozarks, and that North Carolina has the advantage in the exuberant fertility of her mountain lands over the thin lands on the Ozarks. Ohio has fine grass and fine cattle. But out in the plateau region of North Carolina, where the whole land is in grass, and the cattle are Shorthorns, we saw men shipping feeders at four and a half cents live weight, to Ohio, Indiana, Illinois. In Cherokee Co., we saw 200 big hay stacks in one field on land underlaid with the finest of marble. Mr. Chamberlain thinks that the South cannot grow grass. The fact is, that the cotton farmers have been for generations hard at work to keep the grass down. They have neglected forage and stock too much, but are gradually waking up to their possibilities. We saw a man in Eastern North Carolina mowing over two tons of fine hay, per acre, from land that was in cotton the year before and not a grass seed had been sown on the land. Can you cut such a grass crop in Ohio from land left idle? At the North Carolina Agricultural Experiment Station there is a large lawn of Kentucky blue grass over 15 years old, which is the admiration of all who see it, even of Ohio men, and we have several of them here. The dense sod springs like a mattress under the foot, and shows that grass will grow here if given half a chance. On the College farm last year a sod was plowed and planted in corn. It promised to make 75 bushels per acre, but was cut green and used for soiling, and peas were sown on the land, and these later in the season were soiled off, and land sown in rye and crimson clover, and now the cows are wading in the clover. Ohio land could hardly do much better. The market gardeners in Eastern North Carolina habitually get two tons of volunteer hay, equal to the best of timothy, on the land from which their early crops of garden peas and snap beans are shipped, and never a seed is sown. They might do better by sowing peas, and some of them do. The South needs more good Ohio farmers, and good farmers from anywhere, to take up the idle lands. The South is "getting there," Mr. Chamberlain, and while Southern born men greatly admire the farming of the North, they are not willing to admit that *all* the good farming is done there. With a kind soil and a climate that allows of cropping that can never be imitated in the North, the possibilities of the South are but little understood. The Southern farmers do not think they know it all yet, and I pity the man anywhere who thinks he has nothing to learn even from the South.

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The Cream of the Bulletins.

New York Agricultural Experiment Station, Geneva, N. Y. Variety Test of Strawberries. By O. M. Taylor. Bulletin No. 218.

The statement is made in the outset that the late frosts and the cool, moist weather doubtless modified the yield of many varieties of strawberries on the Station plats in 1902. The most productive varieties were Crescent, Riehl No. 29, Monito, Munokin, Beder Wood, Howard No. 2 and Riehl No. 20, ranking in the order named. The bulletin advises planters before growing any new variety extensively, to try a few plants only. Among the newer varieties found worthy of further trial were Bennett, Henry, Joe, Kansas, Monitor, Prof. Fisher, Riehl No. 26 and 31, and the Rough Rider. Marshall and Sample, though not new in some localities, could also be added to the list. All of these except Bennett and Henry maintained their size to the end of the season. Beder Wood and Crescent gave the largest early yield. Johnson Late was the latest one to ripen, but it lacks color and firmness. At the last picking Nettle gave larger berries than any other variety. Monitor was found to have many desirable qualities, but is somewhat lacking in firmness and quality. Prof. Fisher should be planted more closely than other varieties, because it makes very few runners. Henry and Sample should be sprayed, because they are subject to leaf blight, commonly known as rust. The plants used in the tests were all set in the spring of 1901. The soil is rather a heavy clay loam, but well tile drained and sloping slightly to the south. During the season of 1900 a crop of corn was grown on the land, and in the following spring an application of barnyard manure was made and the land prepared for the plants. Ten plants of each variety were set the middle of May in rows three and a half feet apart, and the plants two feet in the rows. They were cultivated and hoed as needed during the season, the blossoms picked off but no runners removed, as it was desired to compare the habit of each sort in the making of runners. As the runners spread into the space between the rows the cultivator was narrowed to prevent damaging them. About the middle of July an application of acid phosphate at rate of 825 pounds per acre was broadcasted over the rows and during the last half of September an application of wood ashes was given at rate of 780 pounds per acre. Early in December, when the ground was frozen, the bed was covered three or four inches deep with clean wheat straw. On the approach of warm weather the following spring the covering was shaken up and a portion removed from directly over the rows and placed between the rows. In about three weeks the straw remaining over the rows was again shaken up and part of it removed to prevent smothering the plants, leaving enough to keep the fruit clean. The beds were weeded twice in the spring. The plants came through the winter in fine condition and promised to make a full crop. Several light frosts and freezes followed in rapid succession just before blooming time, seriously injuring some varieties, and even killing fruit buds covered with straw. This interfered with the yield. Not only was the injury apparent in the dead and blackened centres after the buds opened, but it could also be seen on examining the unopened buds. Not only were the pistils dead, but in many cases it extended to the stamens, as was indicated by their turning brown. But the petals opened as usual and the casual observer would think a good crop in prospect. All were sprayed with Bordeaux just before blooming, and this reduced the amount of leaf rust. Some varieties are more liable to this than others and were more or less injured notwithstanding the spraying. Before and during the fruiting season there was an abundance of rain, and at no time did the plants suffer from lack of moisture. For this reason some varieties made larger yields and larger fruit than they would otherwise have done in a season of deficient rainfall. Tables give in detail the record of the rainfall and temperatures during the season and also the dates of ripening and the yield of each variety. Fifty-six varieties were tested. The season was later than usual by reason of the rain and coolness. Detailed descriptions of each variety are given for which we have not room, and those interested in the varieties can get the bulletin by application to the Director of the New York Station, Geneva, N. Y.

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COMMERCIAL

Philadelphia, April 25, 1903.

WHEAT.—			
No. 2, red	81	@	81¼
No. 2, Penna. and Del.	82	@	82½
CORN.—			
No. 2, high mixed	51½		
No. 2, yellow	50¼		
OATS.—			
No. 2, white natural	40		
No. 2, white clipped	40½	@	41
BUTTER.—			
Western creamery, extra	25½	@	26
Western creamery, firsts	24	@	24½
Western creamery, seconds	22	@	23
Prints, nearby, extra	26	@	27
Prints, nearby, firsts	25		
CHEESE.—			
N. Y., f. c., small—			
Fall made, fancy	14½	@	14¾
Good to prime	13¾	@	14¼
Fall made, fancy, large	14¼	@	14½
Good to prime	13½	@	14
State, part skims, prime	10	@	12
LIVE POULTRY.—			
Fowls, hens, per lb.	14	@	14½
Roosters, per lb.	10	@	11
Spring chickens, per lb.	28	@	30
Winter chickens, per lb.	16	@	20
DRESSED POULTRY			
Fresh killed fowls, choice	14	@	14½
Fresh killed fowls, average	13	@	13½
Frozen do do	13½		
Broilers, nearby	28	@	30
Roasters, nearby	15	@	16
Broilers, Western	11	@	21
Turkeys, young toms	18		
EGGS.—			
Nearby fresh, at mark	15½	@	16
Western, choice, at mark	15¾	@	16
Southern do do	15		
So. Western do do	15½		
VEGETABLES.—			
Asparagus, So., bunch	12	@	40
Beans, So., per ½-bbl. bas.	2.00	@	2.50
Beets, Fla., per 100 bun.	3.00	@	4.00
Cabbage, Danish, per ton	3.00	@	5.00
Cabbage, So., per bbl. crate	1.50	@	1.75
Cucumbers, Fla., per crate	1.75	@	2.00
Cucumbers, per bas.	2.25	@	2.50
Eggplant, Fla., per box	2.00	@	3.00
Lettuce, So., per ½-bbl. bas.	1.00	@	1.75
Kale, So., per bbl.	50	@	60
Onions, yellow, per bu.	40	@	50
Onions, Ohio Globe, per bbl.	1.25	@	1.75
Onions, N. Y. Gl. Danv., bbl.	1.00	@	1.50
Peas, So., per ½-bbl. basket	1.25	@	2.00
Radishes, N. C., 100 bun.	50	@	75
Spinach, So., per bbl.	1.75	@	2.00
Tomatoes, Florida, crate	1.50	@	3.00
POTATOES.—			
White, Pa., per bu.	68	@	70
do New York, per bu.	63	@	67
do Western, per bu.	55	@	60
do new Fla., prime, bbl.	4.50	@	5.00
do do medium, per bbl.	3.50	@	4.00
Sweets, Jersey, per basket	45	@	50
BEANS AND PEAS.—			
Marrows, H. P., per bu.	2.25		
Scotch peas, per bu.	1.75	@	1.80
Green peas, per bu.	1.65	@	1.70
HAY AND STRAW.—			
Timothy, No. Pa., choice, l'g.	21.00	@	21.50
do Western	20.50	@	21.00
Timothy, mixed	15.00	@	17.50
Straw, straight rye	15.50	@	17.50
Wheat	10.50	@	12.00
Oat	9.00	@	10.00
FEED.—			
Bran, bulk, winter, per ton	19.00	@	19.50
Bran, sacked, spring	19.00	@	19.50
COTTON.—			
Cotton, per cwt.	10.35		

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle about steady.

Extra steers	5½	@	5¾
Good steers	5¼	@	5⅝
Medium steers	4¾	@	5
Common steers	4½	@	4¾

CALVES.—

Veal calves fairly active, prairie stock.

Extra calves	7¾	@	8½
Fair to good	6	@	7½
Poor and common	4½	@	5½
Grassers	3	@	4

HOGS.—

Hogs about steady for good weights.

Fat hogs, Pa., Del. & Md.	7	@	9
Fat hogs, Western	9¾	@	10¼

SHEEP.—

Sheep easier, and lambs about steady.

Sheep, extra clipped	5¼	@	5½
Sheep, good	4¾	@	5
Sheep, medium	4	@	4½
Sheep, common	2	@	3½
Lambs, spring, each	2.50	@	5.50

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The New York Market Review.

There has been a good deal of sensational buying and selling of wheat futures in the past week, and violent fluctuations have been made; but the tendency is toward higher prices. The undertone is remarkably strong for futures and cash wheat, and the position is so strong that bulls have little difficulty in advancing prices on the smallest rumors. Interior receipts of wheat are about moderate, and seaboard clearances not unusual. A good deal of the condition of the market will depend on crop statistics and changes from now on, and it is the season for sharp buying and selling. Corn has little speculative attraction, but cash property is firm and higher, with receipts liberal and exports moderate. Supplies of corn are not so large anywhere as to cause apprehension about prices. Temporarily foreign demand is quiet, but at all declines exporters are ready buyers. Oats are locally steady and fairly firm, but cash property is not taken as extensively as early in the year. Market for rye is steady, and barley is quiet, with malting showing some improvement, although brewers are very quiet. Butter had a sharp decline the past week after a fortnight of steady trade at high prices for this season of the year. The creameries are running in larger numbers now, and new butter and cheese are increasing in favor and receipt. The total receipts of butter for the week were 29,513 packages, but a large percentage of these was in Western low grade packings. The best of these goods are in fair demand for export. New dairy butter is steady, but a good deal of it is packed in white wood tubs, which are not in favor here, and have to be sold at a decline of one and two cents a pound. Good fresh Western factory is wanted for export. The rapid reduction in the supplies of old cheese has made it necessary that new cheese should come forward more freely. New cheese is in special demand for export, and all that arrives of standard grade sells at 13c. per lb. Skims and part skims are in liberal supply, and there is a tendency to accumulate.

The poultry arriving in the past week has shown varying quality and daily receipts; but live turkeys are in very little demand and prices are weak and low. Live pigeons are selling well, and also prime ducks and geese. Supplies of fresh killed poultry are mostly low and undesirable in grade. Most of the Western stock is running too heavy, especially in fowls and chickens. Really fine Western small poultry is in demand at good market prices. Nearby spring ducks have had a fair demand all the week, and they continue firm and high priced. Tame squabs are plentiful and lower. Dealers have difficulty in getting fancy fresh eggs, and with all such the market is poorly supplied. The tendency is slightly upward for all grades of eggs which can pass as firsts.

There has been a peculiar dearth of prime hay in this market, owing to the embargo placed upon hay and straw by the railroads. The receipts by canal and river are small yet, and the shutting down on shipments by some of the railroads has been followed by very high prices. Fancy and prime hay is worth $1.20 per 100 pounds, and it is hard to find any at that. No. 1 hay is worth $1.05 and $1.10, which is more than prime brings in ordinary times. There has been more or less of clover grades in the market for some time past, and these are working off some in the present emergency. Long rye straw is more abundant than earlier in the week, but fancy is scarce and hard to get at any price. The market for beans and peas, both domestic and imported, shows no improvement, and prices are drifting along. The choicest of marrow beans may bring a slight premium, but white and red kidney, and pea and medium dragging.

There was a slight improvement in the wool situation, and trade was more active on certain lines of goods, notably territory wools. Prices improved with the demand, and dealers view the situation with more hopefulness. Choicest staple of territory wools show an increase of a cent a pound on the scoured basis. Hops have continued quiet and dragging, with brewers buying very conservatively. Western offerings have been held with a little more strength, which gives the market here a trifle of firmness. In Germany hops are reported firm, but in London trade is dull. The market for cotton is active and firm, with spot stuff higher and still climbing. Exports for the week are moderate, but this does not offset good buying here. Southern planting is reported to be delayed by bad weather in many sections, and this gives an upward twist to prices here.

G. E. W.

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New York, April 25, 1903.

WHEAT.—			
No. 2, red	82¼	@	84
No. 1, Northern Duluth	88¾	@	90
CORN.—			
No. 2	55		
No. 2, white	53		
No. 2, yellow	52½		
OATS.—			
No. 2, white	40		
No. 2, mixed	38		
No. 3, white	38		
HAY.—			
Prime, large bales, 100 lbs.	1.10		
No. 1	95	@	1.05
BUTTER.—			
Creamery, extra, per lb.	25		
Creamery, firsts	23½	@	24½
State dairy, fresh, tubs—			
Fancy	24		
Firsts	22	@	23
Western Imitation Creamery—			
Finest	20		
Good to prime	17	@	19
Lower grades	15	@	16
Packing stock, solid packed	13	@	14½
Rolls, fresh, com. to prime	13	@	14½
CHEESE.—			
State, f. c., small—			
Fall made, colored, fancy	15		
White, fancy	14¾		
Colored, choice	14½	@	14¾
White, choice	14¼	@	14½
State, f. c., large—			
Fall made, colored, fancy	14½	@	14¾
White, fancy	14¼	@	14½
Colored, choice	14¼		
White, choice	14¼		
State, light skims—			
Choice	10½		
LIVE POULTRY.—			
Fowls, selected, heavy, lb.	14		
Roosters, young, per lb.	11½	@	12
Turkeys, per lb.	12	@	13
Ducks, average, per pair	70	@	1.00
Geese, average, per pair	90	@	1.37
DRESSED POULTRY.—			
Turkeys, young hens & toms	13	@	15
Chickens, Phila. broilers, lb.	35	@	40
State & Penna. broilers, lb.	25	@	30
Fowls, West., scalded, per lb.	13	@	13½
Spring ducks, nearby, per lb.	28		
Squabs, large, white, doz.	2.75		
Dark, per doz.	1.50	@	1.75
EGGS.—			
QUOTATIONS AT MARK.			
State, Pa. and nearby—			
Fancy selected white	17		
Fresh gathered, firsts	16		
Western—			
Fresh gathered, firsts	15½		
Ky., fresh gathered, firsts	15½		
Tennessee and other Southern—			
Fresh gathered, firsts	15		

APPLES.—			
Pomeroy, per bbl.	2.00	@	2.25
Ben Davis, per bbl.	2.25	@	2.75
Baldwin, per bbl.	2.25	@	2.50
Greenings, per bbl.	2.25	@	2.50
Common, all kinds, per bbl.	1.00	@	1.25
GREEN FRUITS.—			
Lemons, Cal., 300s	3.10	@	3.50
Lemons, Cal., 360s	2.75	@	3.00
Oranges, Cal., budded, boxes	2.00	@	2.50
Oranges, Cal., blood, boxes	2.50	@	3.00
Navels, boxes	2.50	@	3.50
Tangerines, Cal., straps	2.00	@	3.50
Grape fruit, Fla., boxes	6.00	@	10.00
Grape fruit, Cal., boxes	2.00	@	4.50
Pineapples, Fla., crate	3.00	@	4.00
Strawberries, Char., per qt.	12½	@	20
Strawberries, N. C., qt.	8	@	15
POTATOES.—			
Fla., Rose, new, prime, bbl.	4.00	@	5.00
Rose, new, seconds, bbl.	2.50	@	3.50
Chili, red, new, pr., bbl.	3.50	@	4.00
Chili, red, seconds, bbl.	2.00	@	3.00
So., second crop, pr., bbl.	2.00	@	3.00
Second crop., sec., bbl.	1.25	@	1.75
Maine, per sack	1.75	@	2.25
State & West, bulk, 180 lbs.	1.50	@	2.00
Per 168-lb. sack	1.50	@	1.85
Western, per 150-lb. sack	1.40	@	1.50
Sweets—			
Vineland, cloth top bbl.	2.75	@	3.75
Other So. Jer., d-h bbl.	2.25	@	3.25
South Jersey, per basket	1.00	@	1.37
Del. & Md., per basket	1.00	@	1.25
VEGETABLES.—			
Asparagus—			
Colossal, per doz.	4.50	@	5.00
Extra, prime, per doz.	3.00	@	3.50
Prime, per doz.	2.25	@	2.75
Short cut, per doz.	2.00	@	2.50
Culls, per doz.	1.25	@	1.50
California, per doz.	3.00	@	5.00
Beets, old, per bbl.	25		
Beets, Charleston, per 100	3.00	@	4.00
Carrots, old, per bag	1.00	@	1.10
New, per 100	1.50	@	2.00
Cabbage, carlots—			
Danish, seed, per ton	6.00	@	10.00
Per barrel	65		
Charleston, new, crate	1.75		
Cucumbers, No. 1s per doz.	65	@	75
Florida, crate or basket	2.00	@	3.00
Southern, frame, basket	3.00	@	3.50
Celery, Fla., fancy, crate	3.00	@	3.50
Average, per crate	2.25	@	2.50
Eggplants, per crate	3.00	@	4.50
Lettuce, nearby, per bbl.	2.00	@	3.50
North Carolina, per basket	1.25	@	1.50
Charleston, per basket	1.50	@	1.75
Hothouse, per doz.	25	@	75
Leeks, N. O., per 100 bun.	1.00	@	1.50
Peas, So., 1-3-bbl. basket	1.50	@	1.75
Parsley, per 100 bun.	4.00	@	5.00
Radishes, per 100	1.00	@	1.50
Norfolk, ½-bbl. basket	60	@	65
Rhubarb, per 100 bunches	1.50	@	2.50
Spinach, per bbl.	1.50	@	1.75
String beans—			
Wax, per crate	2.00	@	2.75
Green, per crate	2.25	@	2.50
Green, per basket	2.50	@	2.75
Squash, Hubbard, per bbl.	1.25	@	1.50
Marrow, per bbl.	1.25	@	1.50
New, white, per crate	1.50	@	2.00
New, yellow, per crate	1.00	@	1.25
Turnips, Russia, per bbl.	1.00	@	1.12½
Tomatoes, Fla., fancy, car.	3.50	@	4.00
Fair to good, carrier	1.50	@	3.00
Hothouse, per lb.	10	@	25
Green peppers, Fla., crate	1.25	@	1.50
Onions—			
Hard stock, yellow, bbl.	1.25	@	1.75
Hard stock, red, bbl.	1.00	@	1.25
Average, red, bag	40	@	60
Average, yellow, bag	50	@	75

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WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.	
XX and above	30@31
X	28@29
Medium	29@30
Quarter blood	29@30
Common	25@27
UNWASHED (light and bright.)	
Fine	19@22
Medium	22@23
Quarter blood	22@23
Coarse	20@21
UNWASHED (dark colored.)	
Fine	16@17
Fine medium	17@19
Medium and quarter	19@20
Coarse	17@18
COMBING AND DELAINE FLEECES.	
Washed fine Delaine	31@33
Washed medium	30@31
Washed low	30@31
Washed coarse	27@28
Unwashed medium	23@24
Unwashed quarter blood	23@24
Braid	21@22

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AGRICULTURAL FERTILIZERS.

For explanation of market terms see the P. F. of March 14, 1903.

AMMONIATES.			
Nitrate of soda, per cwt.	2.05	@	2.15
Manure salt, bulk, 20 p. c. per unit, O. P., basis 90 p. c.	64		
Sulphate ammonia, per cwt.	3.15	@	3.25
Tankage, per unit ammonia.	2.15	@	2.25 and 10
Dried blood, N. Y., low grade	2.65	@	2.70
do West., high grade, fine ground	2.72½	@	2.75
Cottonseed meal, ton, c. i. f. N. Y.	27.00	@	28.00
Fish scrap at N. Y.	2.55 and 10		
PHOSPHATES.			
Acid phos., 12-16 p. c., unit	60	@	67½
Bone black, per ton	18.00	@	19.00
Ground Bone, per ton—			
Steamed, f. o. b., Chicago	19.00		
Raw, f. o. b., Chicago	23.00		
POTASH.			
Muriate potash, 80 p. c., future shipment	1.83	@	1.95
Manure salt, high grade (90 to 95 p.c. sulphate potash) ship., basis 48 p. c.	2.11	@	2.20
Manure salt, double (48 to 40 p. c., less than 2½ p.c. chlorine), per lb.	1.12	@	1.24
Manure salt, in bulk, 20 p. c. per unit, O. P., basis 90 p. c.	64		

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie Wis., to whom all communications relative to this department should be addressed.

Mrs. Brown.

JULIAN COOKE.

Home from her journey, Mrs. Brown
Arrived this morning from Boston town.
Her best dress off, and her wrapper on,
"Now I've more room," says Mrs. John.
And she thinks, "I'll look around."
"What's John been doing since I've been gone?"
She spied his socks way under the bed,
And carried them out to the back wood shed;
Then quickly hunted up the broom,
And viciously swept the sitting room
"Work, work all day,
That's what's to pay,
That's what one gets by going away!"

At the kitchen door she exclaimed "I'll be bound
He's got every dish from the cupboard down."
She washed them all and cleaned the table,
And scraped up what grease she was able;
Then blacked the stove and scrubbed the floor,
And washed the soot marks off the door,
And dusted the house, and made the bed,
And got the supper, and set some bread.
"I'm tired to death," said poor Mrs. Brown,
"I've done a week's work since I came from town."
"Scrub, scrub all day,
That's what's to pay,
That's what one gets by going away!"

Editorial Chat.

Mrs. Cady, of Indian Orchard, Mass., kindly informs us that the address of our colored shut in sister, Willie Jane Sheppard, is "Wedowee" instead of Wedomee, as we made it out from Miss Kinney's letter. A later communication from Miss Sheppard confirms the correction. We are glad that so many are sending reading and other tokens. She writes that up to the age of seven years she was like other children; then paralysis began in her feet. It has gone on in the upper and lower limbs, but her body grew. Her instep is drawn around so it now forms the bottom of her foot. She weighs 120 pounds and has rather a large body. She can only reply to letters when stamp is enclosed, as she has no money at all. How little we, with active bodies and brains realize the sufferings of those who must simply "sit and wait."

• • • • • • • •

Mrs. Louisa Doyle Palmer, Richmond, Me., writes: "To the many inquiring about postage on a rudbeckia, two cents will start them from here. The P. F. must visit every part of the United State, judging from the replies to my suggestion published a week since."

[It does, Mrs. Palmer, and not only all parts of the U. S., but of the world.—Ed.]

• • • • • • • •

How busy we all are these spring days, with the sewing, cleaning, gardening and chickens. It is a glorious thing to have work to do and be able to do it. A tired body and conscience void of offence made a soft bed.

Our God Forbidden Liberties.

AMOS WAMPLER.

In a late P. F. we see an article, "Father's Rights," most of which we endorse. Indeed every wife owes a duty of respect to her husband and the father of her children. The careless, and, may I say, disrespectful, way in which so many parents address their children is a shame, to say the least. If they do not call them "brats" and "little devils," the word "kids" is used to a shameful extent, and only shows to what class of the lower animals they themselves belong. The children, in return, address those who should be their "dear mother" and "father," as "the boss," "governor," "old gentleman," "old woman," "the madam," etc. Father calls his wife the "old blade" and she the same toward him. Now don't be surprised if the like of this destroys absolutely all respect of the children for their parents when they get old and need love, respect and sympathy. People take liberties which God, man nor the law recommend. One writer says father has a right to chew and smoke. We take issue with Mrs Hiller. Father has no right, according to God's law, to set a bad example before his own nor his neighbor's children, nor anyone else, for that matter. Because some good men set bad example does not make bad example and bad influence right. Father may take the liberty to smoke, chew, swear and drink. We have no right to interfere with the highest and best interests of anyone. For the same reason has the wife and mother the right to smoke, chew, drink and swear, but deliver me from such a woman. What right has a man to expect more virtue, honor and self-respect in a wife than he is willing to give in return? It seems to me that no woman ought to be ready to give so much for so little. For argument's sake, I will say that father has the right to do all this, and have his breath spoiled, his lips stained, his teeth blackened, his beard full of amber, but how about the wife who has to receive the goodby kiss? How about your brother or sister at church, who has to hunt up another seat? What right has all this to exist? The wife certainly has the same right to keep a dirty house, to be dirty in her person, careless about her cooking, etc. Parents don't feel proud of their boys and girls when they are given to all these noble (?) qualities. These same fathers want local option to have money to run the town; but when one of their nearest neighbor's boys gets drunk, they feel "very sorry," and say he ought to have more sense than to get drunk. They get mad and storm around a great deal when it is their own boy who is carried home drunk. Yes, he, too, ought to have more sense than to have drank the stuff. Now we ought to encourage everybody to drink a great deal, so will have plenty of money to run the town's interests. Did we ever stop to think that when land is selling at $13.56 per acre, ten cents pays for ten square feet? Now while you are buying the sweet (?) tobacco and stirring that ten-cent gin you are about to swallow a nice little strawberry bed. Call in your friends and treat four or five of them. You gulp down a nice garden. Get on a prolonged spree for several days, and you hide enough land to pasture a cow. Then talk of "hard luck," "hard times," and say fate is against you. Say, did you ever hear or know of anybody asking for help, who had good health, that did not use tobacco or whiskey or keep any dogs? I never did, and I don't expect to so long as this country is so blest. True, after the habit is formed, few break off, simply because the will is destroyed by the habit. We cannot impart to our children what we, as parents, have not. May the pure Word of God purify us from our uncleanness, is our prayer.

Knobnoster, Mo.

Helpful Hints.

A READER.

When people ride and their dogs follow them why don't they take them into their cart or carriage, i. e., if they are not too large? I see so many little ones running with all their might to keep up, that it distresses me. Why don't they take them in? [We echo "why?" —Ed.] One of the greatest mistakes that parents make is this, they do not take publications enough for their children. I would advise taking the Youth's Companion for one, and would advise parents to read many of the articles that the children do, so they can talk with them about them and get them interested. I once knew a mother who had four sons and she took this paper for them, but when they were asked to tell her about some things they had read they were unable to do so. She then decided to read the paper herself and talk the subject matter over with them. Such a great difference as it made! To make shoes black and glossy, try the white of an egg for dressing.

When I use raisins I first steam them. I soak them over night sometimes, and in the morning put them in my steam kettle, with a little water added, also a little granulated sugar. I cook them some longer for sauce than for other uses. Try cooking half an hour and see what you think of them.

An apple pie is improved by spreading a little nice apple jelly over the apple when placed on the pie plate ready to bake, before covering, of course.

When I mend a dress made of wash goods, I take a piece of the hem on the under side, as it is somewhat faded, and so does not show as much as a piece of new.

Children should have more games to play with than they often do. They help to employ their time and keep them from being so uneasy. I have a dozen or more for their entertainment when they come to see me.

When I need towels for the bath-room and kitchen I sometimes cut up a good tablecloth and make them out of that. The advantage is, by so doing you can have them any size desired, and besides, they will wipe easier than new towels. As a general rule when I wish to make presents I buy articles at church fairs and so help and give pleasure at the same time. In making coffee, when I do not use an egg to settle it, I put it into a little bag made of cheesecloth and it is very clear.

A mother of this neighborhood is visiting one of her daughters in Palmyra, and writes to her other daughter living here, as follows: "We have just been having a very interesting entertainment here to get money to help the church. They called it 'Around the World.' In the first place, they had a depot, and sold tickets at 35 cents. Then there was a 'bus that took them from one place to another. First they stopped at Boston. There they had pork and beans, brown bread and tea. Next they went to Germany, had sauer kraut, bologna sausage, rye bread and coffee. Next to Japan, there the house was decorated all over with Japanese flags, lanterns and fans. They had to sit on cushions on the floor—no chairs in the room. Had rice to eat and had to eat it with chopsticks. Then they went to Italy. There they had macaroni cooked with grated cheese on it, and tea. From there they went to Washington; were introduced to President and Mrs. Roosevelt. The Congregational minister impersonated the President. There they were treated to cake and lemon sherbert. Then home."

Thinking that some of your readers may think best to get up such a party for "sweet charity," I have thought best to copy the letter. Have given all the particulars that the writer gave. The party had a very enjoyable time and it paid well, so we are told.

Laundry Extras.

EXPERIENCE.

There are some articles that would probably be ruined if sent to the laundress with the weekly wash, and so it is best to clean them at home. Perhaps it is as well to let soiled corsets head the list and dispose of that item first. Some women never think of cleaning a corset, and yet if they become wet with the perspiration of the body, why is it not uncleanly to leave them in that condition until worn out? Of course, it is not best to wash them often, but when they show that they are really too much soiled to harmonize with the fresh and dainty underwear, the decorated and starched corset cover and the pretty dresses, it is time to call a halt and see what can be done to improve the conditions. Prepare a strong Pearline suds in a tub. Have a wide, smooth board resting one end in the tub, like a wash board. Lay the corset on the board and with a small, stiff scrubbing brush rub the suds on the goods until the dirt is loosened and washed out. If the whalebones have become bent they can be straightened after being wet a short time. When the corset looks clean, rinse it well with clear water, rubbing as before, to remove the suds. It may be lightly starched if desired. When perfectly dry sprinkle and roll in a towel until well dampened, then iron with a thin cloth over it at first to prevent iron sticking to the starch. Care must be taken to pull the corset into correct shape before ironing, as it will not "give" when starched. For this reason many prefer to leave corsets without starch after they are washed. When left this way it is an easy matter to add new bones and bindings if needed. With careful repairing a good quality and good fitting corset may be made to last a long time.

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Want of Thought.

S. S. H.

A young girl asks if it is hygienic to wash the handkerchiefs and towels with the family wash, if one or two members of the family have catarrhal trouble or severe colds. Diseases of the eyes and throat and skin troubles are easily communicated by want of thought oftentimes. The question you ask is a very important one. Two or more should never use the same towel if one has the slightest catarrhal affection. Towels are too cheap to risk one's health thus. Have your own separate towels marked, and wash them separately and alone. Make a hot suds of rain water and Gold Dust washing powder and wash your handkerchiefs quickly through this suds. Rinse in hot water so as to kill any germs; then wash your towels and iron while damp, with hot irons. You cannot be too careful in this respect. Many a case of catarrh is gotten in this way, by using each others handkerchiefs, towels, etc., laundering them together. It is very unhygienic. It will entail lifelong suffering many times.

Rugs from Ingrain Carpets.

SARAH SCHRIVER.

I made two rugs from old worn-out ingrain carpet this past winter, and I think them very pretty. I ripped the carpet and washed it thoroughly, as I did not want any color left in the rugs to fade. I then cut the strips about three inches wide and bias, then sewed the strips as I would carpet rags, after which I frayed the edges as far in on either side as possible without the strip coming in two. There was perhaps one-half inch through the centre as a basis. I then took my material to the weaver, who was careful about weaving it in such a way as to cause it to appear as rough as possible. I had one gray and another brown, and three or four inches from the end and about eight inches wide are borders, using gray for border in brown one and brown for border in gray. They are somewhat heavier than ordinary purchased rugs, and I believe will be more durable, for when they become soiled they can easily be washed. They are about six by three and one-half feet. The frayed edges give them a rough appearance and almost completely conceal the chain, and I believe will grow rougher with wear. As these are my first rugs made in this way, it was an experiment, but I am more than satisfied thus far, and hope Mrs. G. R. Hunt will find the foregoing satisfactory.

Marseilles, O.

Correspondence.

Samuel C. Walters, Galena, Md., asks: "Will someone tell me how to destroy roaches in a dwelling." We have not had experience, but "The White House Cook Book" says: "Dissolve two pounds of alum in three or four quarts of water. Let it remain over night until all is dissolved. Then, with a brush, apply, boiling hot, to every crevice or joint in closet, bedstead or elsewhere. Brush with it, all the cracks in the floor or mop boards."

Mrs. Ellen Peters, Red Oak, Ga., writes: Am glad to find the H. C. so very interesting as it is this week. It is like reading some good holiday book or Christmas stories. Hope Tilea E. Huff, of McPherson, Ga., will write about keeping flowers again. And will some of the readers tell me of a pretty hardy vine, suitable to grow over a sunny porch? Also would like to know if "Daughters of America" is still being published? If so, where? Somewhere North, I think. I used to like it so well I wish to read it again.

[Dear sister, some of the others can talk to you about the vine, but we can tell you that "Daughters of America," of Augusta, Maine, has not been published for some years. We were like you, an ardent admirer of the publication, and regret its "demise" exceedingly. We are glad you like the H. C., and hope you will come often. Address us at Sun Prairie, Wis, not Philadelphia.—Ed.]

Mrs. A. A. Watkins, Manson, N. C., writes: Dear Mrs. Melville: Will you kindly allow me a little space to lay before the sisterhood a matter that I have waited long for some abler pen to discuss? I refer to this abominable chain letter business. How in the world can people believe that anybody will pay them $6 per week to write letters for them, when they could have them written by the thousand for comparatively nothing? It is this way; I will explain in case there is anyone in the world that has not received one. A company starts up with the express intention of cheating women out of their money. They write: "I will give you $6 per week to write letters for me, and procure agents to work for me. Send me so much money for my paper, or my fountain pen, or my magazine, as the case may be, and I will pay you $1.50 per week for expenses and $6 for your trouble." Well, what are these agents expected to do? Nothing under the sun but write to get more agents, after they have paid for whatever it is they have to sell. Everyone of them is promised the game, and buy the article only to get in to work for the promised $6. In every State they pay one or two women for a month or two, and have them for reference, and these are considered accomplices in the fraud. One can but look with profound astonishment at the well educated, Christian women who are taken in by this gigantic swindle. I feel safe in saying that I received fifty such letters last year, and I am confident that not one of the writers considered it an insult to my perspicacity to send me such a letter, but were glad to do me a favor by getting me into such a paying (?) business; but how in the world could they think so. A man in our State is safely "behind bars" for selling cherry trees in this way, and I would be glad to know that all such were keeping him company. Dear friends, when anyone offers to give you a large sum for a small one, remember the poem in the old-time school book, especially this line:

"And set his table ready to dine upon the fly."

[Good! We are so glad Sister Watkins brought this matter up. There is nothing for nothing in this world.—Ed.]

Ada, Metamora, O., writes: I like the P. F. very much, for it is true to its name, and that is more than can be said of many farm papers, which give recipes and plans that are anything but practical, especially to a farmer in moderate circumstances. I enjoy reading each letter describing the homes and surroundings of our farmer friends, and perhaps someone may be interested in our plans for improving a plain tenant house, devoid of shade or anything to make it attractive and homelike. The house stands facing the road on the north, with a yard about three rods in width, and is a plain two-story upright with wing, and porch along in front of wing and joining to the upright, with double window in front of upright. A garden lies on west side of house, coming up to the road. The porch will be shaded and screened from public view with a mass of the glorious, ever changeable Japanese morning glories. They will bloom until the frost comes. The fences in front of the garden and house will be covered with such vines as climbing nasturtiums, scarlet flowering beans, wild cucumbers, sweet peas, etc., which require but little care, with clumps of the mammoth castor beans, to provide shade in the yard. They grow to the height of seven and eight feet, and answer the purpose very well. Large cannas are also nice, if procurable, as they grow to the height of four or five feet. Then we will have a bed of mixed geraniums, which are very satisfactory as a bedding plant, and be kept for the purpose in a cellar over winter. A border of dahlias, in red, pink, white and yellow, will run along the side of the house where possible. I reserve front end of garden for annuals, sweet peas, growing over the fence and beds of ever changing double poppys. They form such a pretty spot of color against the background of dark green vegetables, which we plant in long rows and cultivate with a one-horse cultivator. A chicken park at the back of the summer kitchen (which, by the way, is covered with the fragrant wild cucumber) is fenced in with five-foot poultry wire netting and bordered with the mammoth sunflower, which provides the much needed shade and change of food for fowls. I have chosen these simple, inexpensive plants and flowers, as it would not pay we tenants to buy roses, shrubs and trees to set out, for they don't bear removal as well as we do. We will leave those until we own a home, which I trust will not be far distant.

[Speaking of owning one's home reminds us of a lecture we heard recently. The speaker mentioned the fact of there having been no strike in Philadelphia for many years—a quarter of a century, we believe. The reason, he said, is that many years ago there was a club formed there of business men, the aim of which was to encourage the founding and owning of homes among the working people. The result is—now we won't be sure, about the number, but think it is twenty-eight thousand homes. He said the greatest strike was at Pullman, where there are no homes; everything owned by the corporation. Owning a home, be it ever so humble, goes a long way toward making a man a safe citizen. This same witty, noted doctor gave this advice: "Young people, marry and establish a home. You need not wait, young man, to begin where your father left off. Begin as I did; I only had four dollars, and that was all I could borrow in the neighborhood. In the home I would have three things; the Cross of Christ, Old Glory and a cheerful face. In it I would have the songs daily sung: 'Praise God from Whom all Blessings Flow,' 'America,' and 'This World is not so Bad a World as Some Would Like to Make It.'" The central thought in the lecture was education with an aim in view, and "do something, be something."—Ed.]

"A Mother," W. Va., writes: My dear Mrs. Melville: From what "one of the brethren" has said in your columns in regard to "A Mother's" remarks concerning too many children, it becomes necessary that I say a few words, although I am not out for an argument. He says there is some truth in her words, but that there is little chance of the words ever reaching the ears of those who need them. Now, "Mr. Brethren," if you think there is truth in "Mother's" ideas, would it not be better for you to help devise a plan to reach those whom you say have no chance, than to try and overthrow what truth she has written and you have confessed to be the truth? You confess, and then deny. Yes, four children—two boys and two girls—are ours, and we never have failed to perform a mother's duty in every sense. First of all, we have committed them to the care of the Holy One; next, we have taught them "to know thyself." Having done this, they can draw the lines to suit their conscience as well as circumstances. "Too nice or too wise"—space won't allow comment on these words. We quote "next to ungodliness is filthiness." "Be ye therefore wise as serpents and harmless as doves." That mother of fifteen children, of whom you speak, is a model woman and has been blessed, but instead of offsetting Mother's "mess," don't you think it fits better beside the poor invalid mother of sixteen children, spoken of in "Mother's" article? And there is a difference between a mother of fifteen healthy children, with plenty surrounding them, and one in poverty and ill health with sixteen children. Brother, scratch your head and think how nicely one ought to draw the line to fit the circumstances. What would you think of a farmer if he only had pasture for one cow yet expected five to thrive on it, just because his neighbor had pasture for ten and only kept five? What is disastrous in anything? Over production! I agree that the object of creation is that children be born—well born and reared into good men and women. The position I take is the only way whereby we can reach the end desired. Show me a family where the number is too large for "Daddy's" earnings, and, with few exceptions, I will show you a family of vice. "Brethren" says anything that stands in the way of rearing good men and women is mischievous, and still he advocates the very thing that makes the most mischief. We wish we had the ability to show "Brethren" up on what he says in regard to the sterility of American women. We are not qualified to express what we know. "Brethren" says the paramount blessing of woman (save a loving husband) is that she may become a "Joyful mother of children." Well spoken! "Joyful mother," but that mother is not found among the ranks of those who have more children than they can provide for. In our country alone, in 1896, 25,000 children were deserted by their parents. Would it not have been better for those children if they had never been born? Again, there are 100,000 homeless children in the United States. Can we expect any better so long as no attention is paid to having more than we can provide for? No wonder Mormonism exists, when men will say, as "Brethren" does? And we want to ask him which is the greater sin, for a man to have more wives than he can support, or have one poor woman with more children than both of them can support?

["Mother," we are glad you have the courage of your convictions, notwithstanding you have "One of the Brethren," a great bishop and the President of the United States against you. Not long since a humorous lecturer told this little story, which is perhaps the aspect of the case that is troubling all the brethren. Mike and Pat met after long years of separation. "How are yez, Moike?" cried Pat joyfully. "It's well that I am, Pat." "Got any family, Moike?" "Sure and I haz, Pat, a typical Irish family, nine boys and six gurls. Bedad, and has yez got any family Moike?" "Yis, indade, 'and mine's a typical American family, two cats and a poodle dog."—Ed.]

If jewelry or anything of delicacy and value is to be cleaned, and you do not know how to do it, just ask one question: will water injure it? If not, you can wash it in Ivory Soap suds. Pure soap and water will make all sorts of dainty things as clean as when new, but be sure that the soap is pure, for uncombined alkali, grease, rosin and the other ingredients of ordinary soaps may do damage.

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"Experience is the best teacher." This Experience Pool will be a weekly Farmer's Institute for the exchange of practical ideas by practical farmers. We want them to give their experience, as well as suggest topics for future discussion. We publish this department so that all may have the benefit of the tangible, practical experience of others on every subject pertaining to the farm. Let all contribute. A cash prize of 50 cents will be paid for the best contribution, 25 cents for each other contribution published. The only condition is that you are a yearly subscriber to the paper. Write on one side of paper only. On upper left hand corner mark plainly the number of the topic you write about. Articles on all topics must be in our hands at least three weeks before publication. Do not forget to suggest ahead topics for discussion. Address all communications to THE EDITOR, Box 462, Raleigh N. C.

Topic No. 572, May 16.—*Cherries for Market. Have You Found Them Profitable, and What are the Most Profitable Sorts?*

Topic No. 573, May 23.—*Give Your Experience with Portable Fruit Evaporators, and Tell How You Keep Worms Out of the Dried Fruit.*

Topic No. 574, May 30.—*How Did You Commence Farming? What Difficulties Did You Have? How Did You Overcome Them and What Success Have You Had in Improving Your Land and Yourself?*

Topic No. 575, June 6.—*Has the Manure Spreader Paid You on Your Farm for its Cost Over the Old Method of Hand Spreading? Can You Use it Profitably on Hilly Land?*

Topic No. 576, June 13.—*Where a Farm Can Only Afford to Have One Wagon Should it be a Low Down One or Not?*

Topic No. 577, June 20.—*Have You Ever Grown Irish Potatoes Under Straw? If so Tell us How You Succeeded and How You Planted Them and When?*

Topic No. 578, June 27.—*Experience in Cheese Making on the Farm. How do You Make and Cure and keep it, and What Kind of Rennet do You Use?*

Topic No. 579, July 1.—*On What Crop Does the Farmyard Manure Pay You Best, and How do You Manage it?*

Topic No. 570.—What is Your Experience in Stacking Hay Right from the Swath, and Have You any Home-Made Derrick That Has Proven Economical of Time and Labor in the Stacking? Do You Use Fork, Horse Fork or Sling?

G. W. Ribble, Hettick, Ill.—It has been our lot to handle quite a good deal of clover and timothy hay; usually each crop separately, though have handled both together. In our younger days the grass was mown, left in the swath till cured, then raked in windrows and afterwards put in cocks of from 150 to 300 pounds each; the cocks were either dragged, with a horse, to the stack, or pitched on a wagon and hauled to the stack or barn. Of late years we haul the hay directly out of the windrow to the stack or barn. At the stack the hay is unloaded with a common pitchfork, but at the barn the hay is unloaded with a double harpoon fork drawn by two horses. Our method is, cut the grass when the dew has dried off, let it cure in the swath. Sometimes, if cut before noon, it will cure so that it may be put up the same day, but if the grass is ordinarily heavy (1½ to 2 tons per acre) we let it lie on the ground over one night and rake it in windrows before noon next day; begin as soon as the dew has dried off, and haul it in or stack it as soon as possible. After the grass is cut four men with two wagons and two teams, one man with horse and dump rake, will put in stack or barn about ten tons per day without crowding the work. If weather is favorable, we begin cutting clover when in full bloom, and timothy about a week after the bloom has fallen, using an ordinary five-foot mower and cut fairly close to the ground. We have worked with several kinds of derricks, have seen large rakes, hay loaders and tedders, and used them, and when the stacking is done in the meadow and there is a large acreage, they probably are an advantage; but with the ordinary farmer who does not put up over a hundred tons of hay per year they are too expensive to operate to an advantage.

J. F. Cass, Skagit, Wash.—We often stack hay right in the field. And this is the usual course here with the large hay growers who raise this crop to sell direct in market. Hay is put in stack and allowed to remain one or two months, when it is sufficiently cured to bale and store for shipping. Sometimes it is baled directly from the cock in the field, but this is rather risky unless for quick consumption. The only form of derrick that we use here now for stacking is simply a pole leaning a little towards the stack and secured by guy ropes from the other three directions. The hay is usually put up into good sized cocks and these are drawn by a rope passing around the base of cock and the ends of rope secured to whiffletree. A boy and horse then draws it to stack, it sliding on surface of field, saving work of loading on wagons, etc. The ordinary Nellis harpoon horse fork is used in stacking. Thousands of tons of the hay shipped to the Philippines by the Government is drawn from this section, and is principally timothy. For the sea voyage it is doubly compressed.

T. E. Whitlow, Moran, Kan.—This part of Kansas is a great hay country, both wild or prairie hay and timothy, clover, millet and alfalfa are largely raised here. We very seldom shock hay in the field. A few old-timers continue to shock hay in the field, generally to their loss. I aim to keep the machine far enough ahead of the stacking to let it cure well; that is, until it will not show any moisture when a bunch is twisted in the hands. Then it is ready to rake up, and we follow with large bull rake, with a horse at each end, and straddle a windrow and drag it to the stack; we can easily drag in one-half ton at a load. At the stack we have a crane derrick and horse fork. The crane is so constructed that it swings around over stack when at a proper height. Three men, two boys and five horses can easily cut, rake and stack 25 tons of hay per day on our smooth prairie soil.

Geo. F. Botts, Sullivan, Ind.—In stacking hay from the swath we have found a valuable and time-saving implement in the long two-horse rake so commonly used in sections where the ground is level and free from stumps, stones, etc. These are made ten or twelve feet long, with from eleven to thirteen teeth, each beveled on under side or protected by metal tips, and extend about six feet in front of the sill of the rake. This rake, mounted on low wheels or runners, with a steady horse at either end, and managed by a careful driver, will do efficient, speedy work, dragging the hay to the stack, and backed from under the load, leaving the hay in a convenient place for pitching upon stack or rick. We use no derrick or horse fork, because we think that the extra time of taking down, hauling and erecting again in different meadows more than counterbalances the added speed. We put nearly all our hay in stacks of from two and one-half to four tons, and our meadows range in size from 5 to 40 acres. With it, five good men, one to do the mowing and build foundations, one to rake, two to pitch, and one to stack, can put up from ten to sixteen tons of hay, in as good condition, ordinarily, as if raked with the sulky, cocked and then hauled to the stack, and do it in one-half the time. For commercial hay and speed it is the best we have yet found.

C. C. Beals, New London, Ind.—We used to stack our clover hay right from the swath and top it out with timothy hay. We always used a fork, as we did not have enough to pay to put up a derrick. I do not altogether like hay stacked in the field, unless it is the only place to put it, as there is a large layer of poor hay on top and around the sides of the stack that is not very good for feed. I do not think that it pays to stack clover hay under any conditions, as it is not easy to cure it nicely in shelter, and the chances are still more against it in the open air. Timothy hay will keep, and turns water if properly put up in a stack but there will always be a considerable amount of poor hay on the outside if it stands over winter. There are several styles of derricks used in the alfalfa section of the country which save labor, but I have never seen one in use.

Frederick Spiker, Ten Mile, W. Va.—We nearly always stack hay from swath, unless hay is not cured sufficiently, when we put it in small cocks over night. After dew is dried off, open them up to dry out, and then haul direct to stack and pitch it up with hand forks. Have been thinking of getting or making some kind of derrick to stack with, and hope to get practical hints for same in the discussion of this topic. Long life to the P. F.; it is well and rightly named.

M. L. Jordon, Woodford, O.—We think that to stack hay out of the swath is a good way. Cut the hay in the morning, run the tedder over it in the afternoon, and then let it lie till the next morning. Then run the tedder over it so the dew will go off of it quicker. Then to save time rake it up into small windrows. Then with our loader, we take it up and put it in a stack. We rake it to save time, so we will not have to go so far for a load as we would in the swath. We go right up to the stack and unload with a horse fork. For unloading we take three poles about 6 inches in diameter at the bottom and run up to about 3 inches at the top, and we set the two outside ones on one side and the middle one on the other side. Then we dig a hole about one foot deep and set each pole in it so they will not slip down. Then on the side the two poles are on, we nail a 6-inch board about two-thirds of the way up the pole, and one at the bottom of the poles, and then nail some boards up and down, to these boards, to keep the hay from spoiling the stack. Next we take our pulley and climb up to the top and hook it to the bolt that holds the poles together at the top, and then put our rope through this pulley. Then fix a pulley to the single pole and put the rope through that, and hook a singletree to the rope and hitch the horse on, and the fork on the other end and go on and stack hay. We think this is a good way to put hay from the swath to the stack, and saves time.

B. P. Wagner, La Belle, Mo.—We always cut our hay and let it lie until thoroughly dry, then rake to the side of the stack and proceed to stack it. Have never used a home-made derrick or any other, but the following has been recommended. It consists of a pole which is pivoted in the centre to a sled, and which carries at the top a boom to which the fork puller is attached. The boom may be turned in any direction. It is braced to the mast by ladders by which the ends of the boom may be easily reached to adjust the ropes or pulleys. The mast should be 30 to 36 feet long, and the boom 25 feet. The sled 10x12 feet, and the runners of 4x6 pine, and the centre cross-pieces on which the mast rests, of 6x8 stuff; the braces are of 1x6. One hundred feet of rope are required.

D. D. Pickering, Chipley, Fla.—I never have saved any hay direct from the swath. I prefer to cut it and allow to partially cure, rake into windrows and shock to allow it to cure out good and drive out all the moisture. Our native clover here must be well dried before being put in stack or barn. Last year I cut my pea vines down one day; on the second day, just as the dew was going off, I raked the vines and cocked them, then let them stand until the third day and turned them in order to allow the moisture to pass off. Then hauled them and put in the barn good and close. Velvet bean hay will do very well taken direct from the swath, if put in a tight barn immediately after cutting; that is, at least the same day; but I prefer serving them similar to the peas, only they do not need to stay in the field longer than the second day. I have no derrick nor horse fork, but have used them with success.

SUMMARY.

We hardly think that any of our friends have fully answered the questions as we would like to have them answered. We have stacked a great deal of hay from the swath direct, when it was of grass that cures very quickly in hot weather, like the red top, and, in fact, with any grass hay there is seldom any need for putting it in cocks. If the tedder follows the mower and the weather is fine nearly any grass can be raked into windrows the same evening it is cut. Then open the windrows in the morning to dry off, and we can generally store the hay in the afternoon. Of course, if the weather is threatening it may be necessary to cock the hay and use caps. Stacking hay is not the best way to treat it, however, for there is always more loss with any hay stacked than where it is put under cover. But where the farm is large and the work hurried, we cannot always take time to haul to the barn at once, and some means must be taken to keep the hay out for a while at least, even when we have barn room for it. On a large farm, where the hauling to the barn would average nearly a mile, we found that we must care for the hay temporarily, though we had an abundance of barn room. To make a shelter that was better than stacking we built shelters with four stout posts set about the space of a large stack. A light roof of thin boards was made, which had holes in the corners, through which the four posts slid. Iron rods a foot long ran through the posts at various heights, so that the roof could be hoisted or lowered to suit the amount of hay. A series of these shelters around the meadows cost but little, and each would hold more hay than several ordinary stacks and kept it in better condition, and even clover hay could be cured in these shelters, while it spoils badly in stacks. We have never used a derrick in the field, but prefer to use a sling in unloading at the barn rather than a fork. With good slings and a traveler in the barn one can very quickly store the hay. If one has not barn room for his crop we would by all means use the temporary sheds rather than stack. Of course our Western alfalfa growers, who, like all Western people, like to do things on a broad scale, will use the great ricks and stacks and have proper implements for building them, but where hay is worth as much as it is in the East it will pay to have shelters for it, and from the shelters the hay can be baled for market as well as at the barn. Of course there are many who have been taught to hold up their hands in horror at the idea of selling hay, but where one is situated so as to make hay a money crop, there is no reason why he should not do so as well as with any other crop grown if he farms right for hay.

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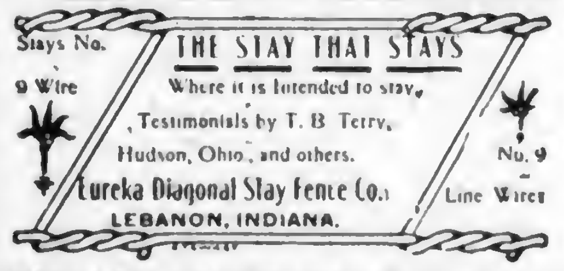

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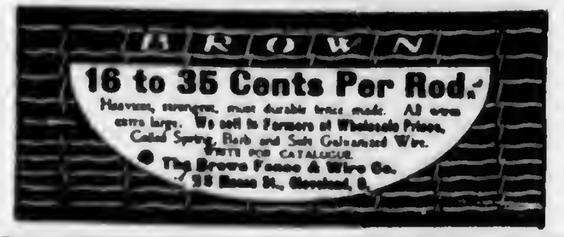

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Farm Implement Annex

To The Practical Farmer.

It is the purpose of this department to assist P. F. readers in securing the best implements and machinery for doing their work, and to so adjust, manage and care for same as to get the best possible returns from their use. We invite subscribers to write us fully and freely in regard to farm implements and machinery. Pointers on selecting implements for various kinds of work and soil; on buying, operating and caring for them; their defects, improvements, attachments, adjustments, etc., will be welcome. A cash prize of 50 cents will be paid for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Put at top of each article For "Farm Implement Annex," and send to Geo. T. Pettit, Box 32, Oneida, Kan.

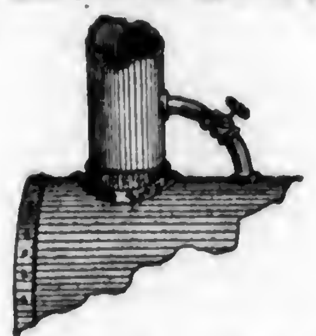
Pivot Axle Riding Cultivator. — In the spring of 1900 we purchased a Hench & Dromgold cultivator which we have used to our satisfaction and profit. The tool is a pivot axle combination which at first, not understanding the mode of operation, we did not like. But after self and team had a few hours practice we got so we could guide it with a degree of perfection. By putting a bolt through holes in two plates we can make a stiff axle, but we can do better work, and easier, with the pivot combination. By placing the seat forward so that when the levers were raised the tongue would balance, brought us too close to the team, cramped our legs and made it hard to properly guide the teeth. We then moved the seat well back, which was of great advantage to us and much more comfortable. But now in turning the tongue would bob up and the neckyoke striking the horses on the jaws would excite them and cause much corn to be trampled down. It was either weight the end of the tongue or get off in turning. I chose the latter and found it rested me, that I could turn more easily and very little corn was trampled by the horses. We keep the bearings of the machine all well oiled. We cultivate close to the plants when small, using the guards to prevent covering them. After the second cultivation we remove the guards and do not run so close to the corn. Early and thorough cultivation always gives good results. By putting two extra teeth in the centre we can convert our cultivator into a spring-tooth harrow. We find the riding cultivator to be an indispensable implement in profitable farming. D. W. STAHL.
North Jackson, O.

Manufacturers' Mistake. — There are others besides farmers who make mistakes, and one of these is the manufacturer of farm machinery. Some time since I mentioned a certain tool in this department, and when it appeared I at once began to receive inquiries as to where it could be obtained. Did any farmer ever make a greater mistake than the makers of this tool in not having it advertised in good papers like the P. F.? Another mistake many of them make is in sending out complicated tools or machines with no accompanying directions for operating same. This sometimes results in a good machine being thrown aside as useless, when if properly handled it would do good work. Numerous instances of this kind have occurred and the result is loss to both parties.
Cynthiana, Ky. ED. WEBSTER.

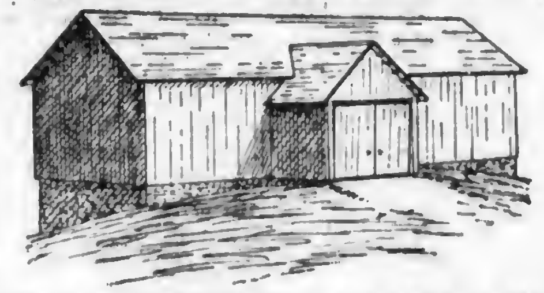
Use of Rolling Coulter. — The rolling coulter is giving good satisfaction wherever used about here, and is quite an improvement over the old style, as it runs easier and will not choke or keep the plow out in stony ground, but will cut roots, etc., in such a way that you can turn a smoother furrow.

Harrowing Instead of Plowing.—A farmer living within a few miles of here took quite a different plan than usual in preparing new ground for corn. After clearing the ground of all brush and litter, he took one section of a spring-tooth harrow and used two horses to harrow it up instead of plowing. In this way the roots did not interfere or need to be cut, as the harrow teeth would usually spring over them. A few teeth were broken, but a supply was kept on hand to replace them. In this way a few crops were taken off and it was then seeded down to clover, producing a good stand. The roots thus having time to rot before the ground was plowed. HOMER ZIMMERMAN.
Sugar Creek, O.

Blower for Boiler.—Small boilers that are hard to steam can be made easy steamers by putting in a blower from boiler into smoke-stack, as shown in cut. When from 10 to 20 pounds of steam have been raised, turn on the blower and you will have on a head of steam in short order. Then if exhaust is run to stack, blower can be turned off. Otherwise leave it on and it will save labor and fuel. L. E. KERR.
Hurricane, Ark.



That Barn Door Again.—We would not like to say sharp or unkind things of anyone because they differed with us in opinion, and we are sorry that our ignorance disturbed anyone. In this part of the country the majority of the modern barns are built with what is called, here, a driveway, which is built out from 8 to 12 feet, as the party chooses. Ours is 10 feet, and the doors are hung on hinges and swing inside. In our previous article we told how to hang these doors and have them sure to swing clear of the floor, and we meant no offense to anyone. The additional floor space gained by building this driveway is a great convenience and this pays for all it costs. When properly built with good plank threshold, there will be no more wet on your barn floor from storms than in your house, when the doors are not protected by porches. We took the precaution to frame the front sill back 8 inches, and then lay a false sill in at the wall to receive the threshold, so that if it does rot, it will be easily removed and a new one put in. The roll door is no new thing in this part of the country, and we can show you barns where they have been discarded and swing doors put in their places; yet we would not criticise the judgment of anyone who wishes to use the roll door. Our objections to them are: They can never be made to shut as closely as the swing door; are liable to warp and make them trouble about opening and shutting; are liable to be broken by not being shoved back far enough when driving through; when handled by hired help they are very liable to get off the track regardless of the precaution of putting a block in the middle; and then when there comes a storm of snow and ice and one has to hunt up an ax or crowbar to get the door open, it is not pleasant. MARTIN SHERWOOD.
Upper Lisle, N. Y.



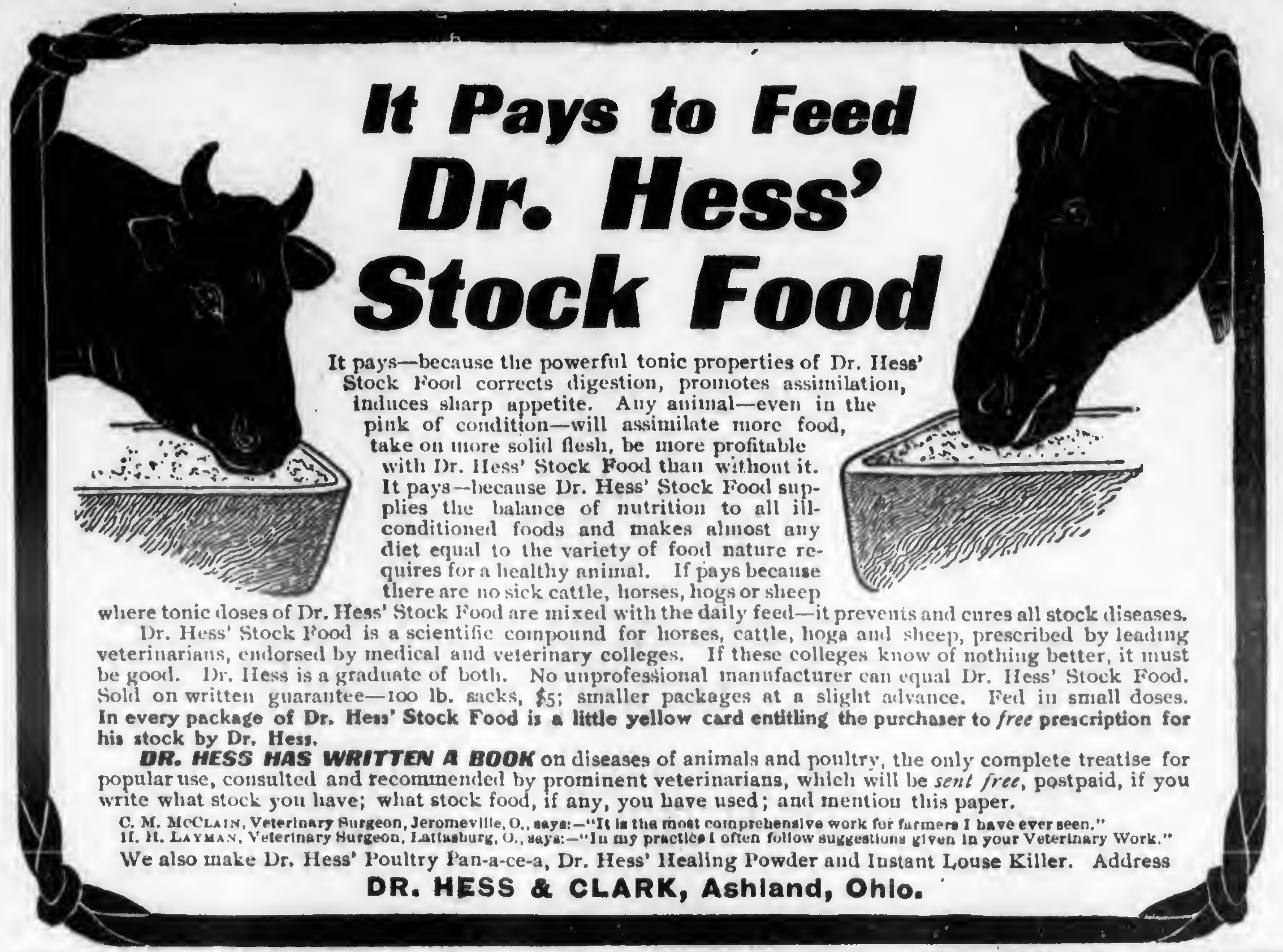
Wireless Corn Planter.—In the spring of 1902 my father-in-law, a neighbor and myself bought a wireless corn planter of a Davenport firm. With it I planted 30 acres of corn in two and a half days, and that a mile from home. On level land it works to perfection, but must be driven straight or it will get out of time. It also works well on rolling land or hills, but on no kind of land must there be clods or they will throw the spacing wheels out of step. This I consider a good fault, as it will cause us to prepare our land well. One machine will do the work of two or three farmers and save time.
Clinton, Ky. ROBT. SAMUEL.

Incubators vs. Hens.—The success of the incubator and brooder has created an industry that has rapidly grown to large proportions. Easily the leaders in this enterprise are the George Ertel Co., of Quincy, Ill., the makers of the celebrated Victor Incubator. An idea of the magnitude of their business can be formed from the statement that in one day of February, 1902, they made the enormous shipment of five carloads of Victors, covering orders from every part of the world. The Victor has many proven points of superiority; the claim that it will hatch every fertile egg is based on many record cases where 100 per cent. hatches have been realized. This is the crucial test of worth in an incubator—success in its primary purpose, and should be the first point considered in purchasing a machine. The Ertel Company is a long established firm and their products are known and appreciated in every part of the world. A valuable book about poultry raising and breeding, illustrating and giving full information about the Victor machines will be sent to all who request it. It is not a mere advertising circular but a book valuable as a work of reference. It is free for the asking, if you mention the P. F. when writing for it.

Cultivator Not Satisfactory.—Several years ago we purchased a combined cultivator, spring-tooth harrow and seeder, which has never given entire satisfaction. As a harrow this machine does good work, tearing up baked land, or in any capacity as a spring-tooth harrow. The seeder is of the "Hoosier" type and does fine work, broadcasting any kind of seed just ahead of the harrow, with great regularity. As a cultivator the machine is too clumsy and difficult to manage. It has solid axle and the gangs, which are extremely heavy, must be operated with the feet, which is tiresome in the extreme. It cannot be made narrow enough to cultivate narrow rows, such as potatoes, etc., so the wheels tread the crops. Considerable time is also required to change the combinations. It certainly is advisable to have a special tool for each kind of work; will prove cheaper in the end. CAMPBELL & WEST.
Hartstown, Pa.

Sack Holder.—Take four 2x2 pieces each 30 inches long, two 1x4 boards each 21 inches long, and two 1x4 pieces 23 inches long. Nail the boards on the 2x2s as if you were making a stool, but there must be no boards on the bottom. Drive nails at intervals in tops of the 1x4s and file heads off. You will have a sack holder that will give better satisfaction than a man could. You may have to nail a board at top on one side to shorten the distance between sides, but the legs want to be as far apart as stated.

Keeping Plows Bright.—I used to be bothered to keep a plow bright between usings, but find that if I just wipe plow clean and rub it with lubricating oil it will stay bright all winter and scour as well in the spring as it did in the fall. I also find this oil excellent for shoes. It keeps them soft and nice, but needs to be used often. Some use tallow, but I think it causes the leather to crack. MARION P. WHEELER.
Greenleaf, Ore.



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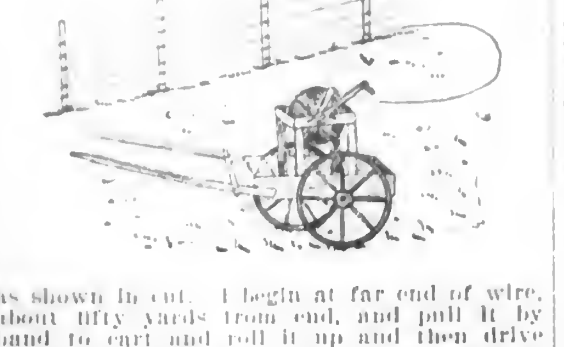
SHORT CUTS.

BY PRACTICAL FARMER SUBS.

All other trades have resorted to "Short Cuts." To be successful farmers must resort to them, too. In this column we will publish all actual labor saving short cuts made by the farmer on the farm and the housewife in the home. Write and tell us of any labor saving tool you have made, of any method of management or manner of using implements to save time, labor and money, or increase their efficiency. Even the smallest things may be useful and valuable. Hints and helps in the household are always welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Write on postal cards and make articles short. All errors will be corrected by the editor. Address all communications under this head to T. Greiner, La Salle, N. Y.

Device for Moving Barbed Wire. I made a cart to haul water, just large enough to hold a barrel. I used two old binder trucks for wheels and made a wooden axle. I used two pieces of joist about 4 feet long, 6 inches wide; bored a hole through the joist and axle, about the centre of joist, and put a bolt through axle and joist to make it secure, as shown in cut. Then I made a windlass with crank on which I wind wire as shown in cut. I begin at far end of wire, about fifty yards from end, and pull it by hand to cart and roll it up and then drive about fifty yards and wind up again, and so on. Then take wire to where you wish to use it; staple one end to post and drive on; be sure to hold crank to keep wire from running off too fast. Take off bottom wire first, and on new fence begin at top. There is a tool box in front of cart, as shown in cut.



Bagdad, Ky. E. W. Bon Durant.

To Keep Children Warm. — Sew a piece of tape ¾ inch wide and 4 inches long to the bottom of drawer leg to hold it in position under the heel while the long stocking is being drawn on. I often cut the worn feet from a fairly good pair of stocking legs, and by adding to the top of legs a piece of material cut from the best part of a worn knit undergarment, then cutting, by a good pattern, sewing by machine, and adding tape as above, I have a very satisfactory pair of drawers for a child.
Smith's Creek, N. B. Mrs. J. H. King.

Device for Keeping Meat. — To keep meat after smoking without flies getting into it, arrange as follows: Take some matched lumber the desired length and make a box, solid at both ends. Have a wire screen at the back, securely fastened so the flies cannot enter. Have wire screen door on the other side, so the air may pass through the box. Fasten small hooks in the top of box, and you will have one the flies will not get into, neither will the meat mould.
Zelda, O. Hattie Mitchell.

To Starch, Fold and Iron Shirts.—To three tablespoonfuls of dry, fine starch, allow a quart of water. Wet starch smooth in a little cold water in tin pan, put into it a pinch of salt, a piece of enamel or shirt polish the size of a bean, or a piece of clean tallow or butter the size of a cranberry. Pour over this a quart of boiling water, stirring rapidly; place over the fire and cook until clear, then remove and set pan in a pan of warm water, to keep the starch warm. Turn shirt wrong side out and dip bosom in starch as warm as the hand can bear; rub starch evenly through the linen, saturating it thoroughly; wring hard to make dry as possible. Starch collar and wristbands the same way, then hang out to dry. Three hours before ironing them wet the bosom and cuffs in cold water, wringing out, roll up tightly, wrap in a towel and let lay two or three hours. The back of shirt should be ironed first, by doubling it lengthwise through the centre, the wristbands next and both sides of sleeves, then the collarband; now place a bosom board under the bosom, and with a fresh napkin, dampened a little, rub the bosom from the top toward the bottom, arranging and smoothing each plait neatly; then with a smooth, moderately hot flatiron begin ironing from the top downward, pressing hard, until the bosom becomes smooth, dry and glossy. Remove bosom board and iron front, fold both sides of shirt towards centre of the back, fold together below bosom and hang on bars to air.
Boonville, Mo. M. Adams.

Mending Coal Scuttles. — Mrs. Warren's way is good for a time, but I find it much better to send the scuttle to the tinner and have him put a new bottom in. He will put one in for a few cents and then it is as good as new. We often have our tin buckets and pans re-bottomed. They last as long as new and the cost is much less. If a pan or bucket begins to leak and I don't have a chance to send it to the tinner just then, I mend it with sealing wax. Get the wax very hot and drop a few drops over the hole, then smooth it down with a hot knife; use an old knife. By handling with care it will last several days. M. Murphy.
Eldorado, Ill.

Salt Box.—My barn is built on the ell plan. In the corner of ell I have a box 18 inches square and 6 inches high nailed to the barn on two sides, about 20 inches from the ground, where I keep a lump of rock salt so the stock can get it at will. Over the box, five feet from the ground, I have a roof 4 feet square, to keep the salt dry. Stock will do better when they can get a lick of salt whenever they want it. My stock will take some salt every time they drink any water. This is a good plan for the lazy man as well as the careful one, as it saves much time in the course of a year.
R. R. 2, *Greenville, O.* H. H. Tilman.

Short Cuts for Wash Day.—I have no machine, and do not want one. I put the wash boiler on with enough water to cover white clothes, then before putting my clothes in I dust in just enough lye to make the water a little slippery, then shave in a trifle of hard soap; stir well and while the water is cold I put my clothes in just as you gather them up dry, and bring to a boil, then take out into clear, cold water, rub dirty places on a board, rinse in bluing water and they are ready to hang out. I put everything in this boiling water, even overalls and socks. It will spoil anything woolen. I can get my washing out in a few hours in this way. It is nice for light quilts. Maggie Ritchie.
Northfield, O.

Cutting Poplars Without Having Them Sprout. I have been watching a piece of land that was grown up thick with quaking asp, or, as some call it, "shaking poplar," saplings. A man went to cutting them, but instead of cutting low he cut them about four feet from the ground. In the three years I have watched I have not seen a single sprout. Before knowing this I cut some and the next year had a regular jungle of them. F. C. Chase.
Meadville, Pa.

Uses for Peppermint Oil.—How many know that oil of peppermint is a remedy *par excellence* for toothache, sore gums, or any form of facial neuralgia? It is "labor saving" inasmuch as it does away with the necessity of hot applications, and is a much quicker and more permanent relief. Also that a drop of it on loaf sugar, held in the mouth until dissolved, will stop a cough which may be preventing you from going to sleep. E. S. E. Sloan.
Clarion, Pa.

To Clean White Straw Hat.—Brush or wash the hat to get any loose dirt off. Place the hat in an air tight tin box together with a saucerful of sulphur; light the sulphur, of course so that it cannot burn the hat. Close the box and leave for twenty-four hours when the hat can be removed and found to be like new.
Senatobia, Miss. Alvin Scott.

Cleaning and Oiling a Clock.—Take them out of the case, remove the escapement regulator; place in a vessel that will hold enough gasoline to cover them; let them run a while in the gasoline, take out and allow the gasoline to evaporate, then take a broom straw or small wire and dip it into sewing machine oil and put a small drop wherever there is a bearing. Replace all parts that have been removed and return to case, and you have saved a dollar, as the foregoing treatment is all that a jeweler does when he cleans a clock. Geo. H. Barth.
Houston, Tex.

Cleaning Mirrors and Piano Keys.—Mirrors should not be cleaned with soap and water for they will eventually dim the surface. Unless a mirror is really dirty, rubbing it with a soft cloth will cleanse it satisfactorily. If it is necessary to use something else, try alcohol and water. By the way, water should never be used on piano or organ keys, for it will turn them yellow. Wipe them with a bit of soft flannel dampened with alcohol. R. P. Handy.
Berlin, Md.

Renovating Cloth.—If gasoline, naptha or benzine is the cleaning fluid, one often finds that the last state of the cloth will be worse than the first. Around the spot will be a ring of discoloration that marks the stain more than did the original spot. To prevent this the fabric should be cleaned with a piece of the same goods, the cloth rubbed lengthwise and with the weave. Rub until the spot is perfectly dry.

Can Rubbers. — Rubber bands for preserving jars may be renewed after they have apparently become stiff and useless by laying them in a mixture of half water and half ammonia over night.

Cleaning Lamp Chimneys. — Clear, cold water and tissue paper cleanse and polish lamp chimneys better than anything else.
Lime Hill, Pa. Mrs. F. E. Bramhall.

Use for Old Woolen Stockings.—The feet and lower parts of fine, black woolen stockings are often worn out, while the legs are quite good. I rip them and double the yarn three or four times, according to the fineness of the thread, roll into one ball without twisting, and knit as one thread. It makes beautiful mittens for the little folks for school wear. I always knit them ribbed all the way through. A neighbor of mine, when I told her of this plan thought it the height of economy and I don't know but she even thought me stingy; but I think it is a sin to throw anything into the rag bag that can be made use of.
Clinton, Ont. Mrs. W. Landsborough.

Keeping Chicken Roosts Clean.—If you never have tried putting dry sawdust on the platforms of your chicken roosts you do not know how easily they can be cleaned.

Maple Molasses makes one of the best icings for cake. Boil a cupful until it is brittle. Beat the white of an egg to a froth. Have one person beat the egg briskly after it is to a froth, while you pour the maple in slowly. Spread on when the cake is cold. No flavoring. Rachael Armitage.
Damascus, O.

Laundering a Corset.—The easiest and quickest way to launder a corset is to lay it flat on a washboard, take a scrub brush, hot water and soap and scrub it until thoroughly clean. Rinse and starch by rubbing clear starch into it as you would cuffs, collars, etc. To prevent iron rust, it should be dried quickly in the sun, if possible. I have dried them successfully in the stove oven. Be careful not to twist bones or steels or it will never set right afterwards.

Emergency Shelf. — A shelf containing the following simple helps and remedies will be found a very useful help in time of trouble; Turpentine, alcohol, camphor, brandy, arnica, [illegible], ammonia, glycerine, carbolic acid, castor oil, Jamaica ginger, chloroform, lime water, soda, salve, vaseline, chloride of potash, flaxseed, mustard, court plaster, borax, sweet oil, roll of old linen, roll of flannel, hot water bag, sponge, glass tube, a graduated glass, strings, safety pins, scissors, etc. Have everything labelled, and shelf out of reach of children. Mrs. F. Rhinehart.
Steubenville, O.

To Clean Lime from Tea Kettle.—Take about a teaspoonful of good soda and put it into kettle and boil a short while. This will make your kettle nice and clean.
Cambria, Va. W. W. Ashworth, Jr.

Things Worth Knowing. — Snuff will kill lice on calves. You can rid your orchard of caterpillars by removing the eggs which are now (while the tree is bare) easily seen in bands or clusters, mostly on the terminal twigs. You can save time by dropping your cookies into the pan from the spoon instead of rolling and cutting them. The cookies are softer and more pleasing, especially to those with poor teeth. Pumpkin or squash can be put through the meat chopper, using the finest ring, much more quickly and with better results than by using a colander.
Goodales Corner, Me. A. W. Bowden.

Short Cut Cookies.—At supper time, or when convenient in evening, take one-half cup of lard, one-half cup butter, three eggs, one cup sugar, grated nutmeg; mix usual way; add sufficient flour to knead with hand rather firmly but not crumbly. Make a nice, smooth dough, shape oblong and roll gently to and fro with palm of hand until you have desired size. These should be one-half size of usual cookies. Leave on board till morning. At breakfast time, when fire is ready and oven hot, slice roll off thick or thin, have unbeaten white of egg in saucer; beat slightly and smear over cookies, sprinkle with sugar, set in pans and bake. This saves the everlasting cutting out and fussing with cookies and dispenses with them early in the day and kills two birds with one stone. If in still greater haste, leave out white of egg. E. Keohan.
Waddington, Cal.

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Clean the Flower Pots.—I am often benefited by reading this department, and have been a frequent contributor to the H. C. page, but as this little item regards the growth and stimulation of plants and flowers, I will send it to you as one of our successful undertakings; in fact, it is quite remarkable what a change it makes in the growth of flowers to have the pots scrupulously clean inside and out, so as to allow the circulation of air and penetration of sunlight. I learned these helps while living in Florida a few years for my health. So many move about and the companionship of flowers must be by having them in pots; hence such should learn to propagate them as well as it can be done. First, the florist says that we amateurs use larger pots than they do, and do not consider the size in proportion to size of plants. Common earthenware is better than glazed ware, and there should always be a saucer for drainage. When potting the plants have ready a tub of water and make a suds by adding Gold Dust washing powder, and plunge the pots into this suds, washing them inside and out with a stiff brush, and through and through until you know they are faultlessly clean. This suds is also excellent for stimulating the growth of young plants and acts as an insecticide; is also good to sponge palms with. It is wonderful how much it improves flowers to wash the pots clean. I had never heard of this being a virtue until the florist spoke of it, and his method proved a success. Fill the pots with fibrous soil, decayed or dried dairy soil, with sand or wood soil and black mould from decayed leaves. Such porous pots and fibrous soil permits circulation of air. Mrs. S. H. Henton.
Georgetown, Ky.

Success with Tomatoes. — I hear so much complaint of tomatoes not keeping in glass jars that I will tell my method of putting them up. I used glass jars and every one kept nicely. Let the tomatoes be well ripened, but not soft; gather in the evening and can the next morning. This is a good way. Scald and peel, and if large cut in several pieces. Put on to cook in granite kettle, let them boil twenty minutes after they begin cooking. Skim thoroughly; have your jars ready and fill to overflowing; have new rubbers, put on top and screw down tight. Turn upside down and let stand a while to see if any air escapes; if not, they are all right and will not mould. Set them away in a cool, dark place; not necessary to wrap them.
Olney, Mo. Mrs. J. E. Ingram.

To Keep Apples.—Grimes' Golden and Jonathan apples are very difficult to keep for late use or even till mid-winter, but we still have plenty of them at this writing (January 28th). Our method was to pick from the trees as soon as the fruit was well colored, and in case of the Grimes' Golden, even before this point was reached, and pack closely in barrels. These barrels were kept in the shade until very cold weather, when they were removed to the cellar. They are not sorted over nor handled at all until we are ready to use them. Thus the ones that rot will not be broken, but the skins will remain dry and the sound fruit will not readily contract decay. J. O. Shroyer.
Humboldt, Neb.

Keeping Meat.—Let the meat lie in salt about four or five weeks after butchering. Then take up, wash the salt off with warm water. Get pure black pepper in the grain, pulverize finely and spread it on while the meat is damp. Now hang the meat and dry it with a fire of green hickory and sassafras wood, and no skipper gnat will run up against it. You need not take it down until you are ready to use it. The first time I tried this I failed, but it was because of the pepper not being pure. Borax will keep skippers out, but makes the meat hard. I ordered my pepper one year ago and treated my meat in this way and it was a success.
McKenzie, Tenn. John E. Everett.

False Economy. — It has been demonstrated by practical men that it pays to feed grain liberally, and an animal that will not pay for such feeding is not profitable. Notwithstanding this, there are many farmers who feed little or no grain, with the result that their stock is at a standstill through the winter season. It has been my experience that the quicker young stock can be brought to maturity, the greater the profit. A thrifty yearling will bring a higher price than a small 2-year-old, and is of much more profit. Watson Roper.
Smitum, Ga.

The Strawberry Bed. — Every farmer should have a strawberry bed large enough for his own use; but how many of our farmers depend upon buying their berries from the grocer instead of raising their own and having all they want. It is not difficult to raise strawberries if one will give them a little attention. Here are a few simple directions which, if followed, will bring success. As soon as the ground is fit to work in the spring, plow some old land that is free from the white grub, and give particular attention to harrowing it well. Now, if you have some wood ashes, sprinkle them over the land and harrow in. Mark in rows 4 feet apart and set plants with roots nearly straight downward. If it is a dry time, firm the earth well around the plants. Keep all weeds out during the summer and cover with straw or other coarse material when the ground freezes in the fall. The following summer you will enjoy some fresh, delicious strawberries that will make your mouth water.
Cazenovia, N. Y. E. R. Davis.

Rocking Chair in Kitchen. — I was rather amused upon reading the Feb. 4th number of the P. F., to see in the H. C. that a lady from Indiana condemns the rocking chair in the kitchen, and was pleased with Mrs. Melville's opinion. Now I believe in a rocking chair in the kitchen; in fact, have one there and expect to have. About a year ago I placed one there near a window, and my, how handy it is! When the mail comes how nice to drop down for a minute, or to hold baby for a little while. Even the "gude mon" and other members of the household are often tempted to sit therein. Sisters, put a rocker in your kitchen if a nook can be found for it, and save yourself all you can. Kitchen work is a daily drudgery, make it easy as we can. So let us have every possible comfort and convenience, heeding not those who would rather wear out than rust out.
Pesotum, Ill. Mrs. Sue Congleton.

Building a Barn. — One great mistake which farmers make is in building their barns so the sun cannot shine into them. Mr. Terry tells us how to let the sun and air into our homes, and I think we should also let the stock enjoy the winter sunshine. I would say never build a shed on the south side of a barn, as it keeps the sun out in winter, and makes the barn hot and close in summer. If sheds are needed, they should be placed on the east and west sides. I received a copy of an Ohio farm paper in which the editor pictured and described his bank barn. He has his bank on the north and a large manure shed on the south, and no window to let the sun in. The barn is bound to be a damp and mouldy place. The proper way would be to use manure carrier and carry manure to east or west shed and put in windows on the south. Have a 6 or 8-pane sliding sash to slide to the left and a board shutter to slide to the right. I would rather have a shed than a barn that the sun cannot shine into, and the stock would like it better.
Shafter, Okla. Wm. Shumaker.

The Picture Agent.—How many hard-working farmers make the mistake of letting any kind of agent get the better of them. A short time ago a young fellow canvassed our district taking orders to enlarge pictures at $4.98 each. He got an order at nearly every house, and three at some. After canvassing and before leaving the township, he re-canvassed the territory, cutting his former price in two and offering to accept orders for $2.49. This was enough to convince anyone of his immense profit. When delivering, some six weeks later, he tried to collect more than he had asked on his first canvass, and no doubt got in his work on the easy going ones. The way to treat such fellows is to have nothing to do with them. Order them from your door the first time they come and never keep them over night, as this is one of their plans to gain your confidence. Far better buy your goods from the stores and your pictures from the nearest artist, than deal with such fellows. Ancil Lowry.
Mosgrove, Pa.

Stifle Joint Lameness. — I will tell P. F. readers how I came to learn the successful treatment of stifle joint lameness in mules and horses. Some time ago one of my boys went to let my yearling mule colt out of the stable. Before he got the door well opened the colt rushed out and a little to one side, striking the stifle against door post and displacing patella. Colt seemed in great pain and dragged its foot. I thought the colt ruined, as I had seen a great many animals in this condition and considered them practically worthless. But I had recently sent for one of Dr. Kendall's horse books, as advertised in the P. F., and consulted it at once. Here we found what the trouble was and the remedy, which we applied, and in one hour from time of accident we had it replaced and the colt capered around as if nothing had happened. Had I not been a reader of the P. F., in all probability I would never have known the remedy. I owe the value of my mule, which is a very fine one, to the P. F. and Dr. Kendall. I take nearly everything recommended by the P. F. to be orthodox.
Marcus, N. C. H. S. Pool.

Buying of Agents. — Much has been said in this and other departments of the P. F. against buying of agents. We wish to say that we believe the disadvantages of buying from agents are greatly magnified by some people because they have at some time been foolish enough to be led into ordering $50 to $100 worth of fruit trees with high-sounding names, which are, if anything, only an untried novelty, with no recommendation save the smooth rattle of the agent's tongue. We once asked a travelling M. D. with whom we were well acquainted, how he made so much money. He replied that "This country is chock full of fools standing around waiting to be duped." When we read of people signing orders or papers of any kind for agents of whom they know nothing, or whom they know are not strictly truthful and honest, we are led to wonder if our medical friend did not say something. Now, if those who decry the agents in such unmeasured terms will use the simple precaution to patronize only salesmen who are well known and reliable, they need have no more fear than in dealing with the firm direct. More especially is this true of nursery stock, for upon the nurseryman depends everything, after all, and where only a few trees are wanted, the most practical way of ordering is through an agent. S. H. Mann.
Preston, Ill.

Preparing Meat for Table.—Last fall we had some beef, pork and mutton to use, and bought a No. 10 Enterprise meat chopper. We chopped mutton and pork together for sausage; and after boiling a kettle full of beef, we chopped and seasoned that and then pressed it into a tin. We also chopped some of the mutton and pork together and afterwards pressed it. When cold these meats can be sliced off like cake and used as cold meats. After having chicken or turkey for dinner, one can take what is left, run it through the chopper and press it, making it much nicer to handle. Jno. F. Horton.
Eden, N. Y.

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Located in southwestern part of Alamance Co., within 6 miles of Liberty. We have good water and pure air; fair 4 months schools and plenty of churches. Weather has been warmer than usual, with an abundance of rain, so much that little spring work has been done. Wheat is looking well. Prices: Horses, $75 to $100 each; wheat, 95c.; corn, 65c.; oats, 60c.; peas, $1 to $1.25; potatoes, $1 per bu.; eggs, 10 to 12½c. per doz.; butter, 15 to 20c. per lb.; cows, $20 to $40 each. I am always anxious to get the P. F.

LONA L. KIMREY.

Oakdale, N. C., April 20, 1903.

Located 3½ miles east of Denton, county seat of Caroline Co. Spring so far very wet and farm work much retarded. Heavy freezes April 5th and 6th, when thermometer stood at 26 degrees; damaged fruit greatly; probably not more than half a crop of peaches and pears. Prices: Wheat, 75c.; corn, 50c.; Irish potatoes, 50c. per bu.; sweet potatoes, 15c. per bu.; hay, $25 per ton; hired help very scarce at $10 to $16 per month; land, $10 to $60 per acre. Farming more profitable last year than previously. Rural free delivery of mail just begun. Two railroads within 3 and 6 miles. H. J. RAMSDELL.

Denton, Md., April 21, 1903.

Located at Girard, Pa., about 18 miles west of Erie City. We have a good, level farming country. Good roads, telephones, trolley line nearly completed, to run from Erie to Cleveland. Have had a mild winter. Winter crops are looking good. Price of land, $50 to $125 per acre; horses, $75 to $150; cows, $30 to $70 each; wheat, 75c.; oats, 40c.; corn, 56c. per bu.; butter, 23c. per lb.; eggs, 13c. per doz.; farm help very scarce at $1.50 per day. Some spring work done; some oats are in. The weather is very nice. JNO. B. MILLS.

Girard, Pa., April 22, 1903.

Situated about 15 miles west of Salem, the capital of Oregon, in the garden spot of the Willamette Valley. We raise all kinds of cereals and fruits. Sixty miles from the Pacific coast, the sea breeze strikes us about 3 o'clock P. M., which makes it nice and cool in summer. The principal industries are farming, dairying, hop raising, fruit raising, goat and sheep raising and lumbering. The main crops are wheat, oats, barley, cheat, clover and vetch. The prices are: Wheat, 75c.; oats, 40c.; barley, 40c. per bu.; cheat hay, $10 to $12 per ton; clover seed, 12 to 15c. per lb. The weather has been nice the past winter. Spring farming is well under way. I wish we could get more points on clover raising in the West, through the P. F. Success to the P. F. and readers.

A. G. REMPEL.

Dallas, Ore., April 15, 1903.

Located in Eastern Washington, in a good climate, with no cyclones or crop failures. We have had a very easy winter and not much snow. A few have started spring plowing. Fall wheat is all right in spite of early winter rains and hard freezes. Prices: Good horses, $100; cows, $50 each; hogs, 6¾c.; cattle, 4½c.; butter, 20c.; poultry, 11c. per lb.; wheat, 65c. per bu.; oats, $1.15; potatoes, 45c. per cental. This is a very fine apple country, and two miles east of here, next to the mountains, peaches are a sure crop. J. E. BLODGETT.

Farmington, Wash., April 14, 1903.

Located in central part of Wabash Co., Ill., 8 miles northwest of Mt. Carmel, a rapidly growing manufacturing city of 6,000 inhabitants. The Government dam across the Wabash River at this point is a noted fishing and pleasure ground in summer. An electric plant is to be built there this spring to utilize the water power. The county has good shipping facilities—two railroads and considerable boating on the river. There is considerable bottom land in the county along the Wabash on the east and south and the Bompas Creek on the west; central and northern part upland clay. Land generally fertile and produces good crops. Great number of farms changing hands at $30 to $80 per acre. General farming and stock raising practiced, and scarcely any special industries. Much pea hay grown the past few years. It is a crop that has come to stay. Prices: Corn, 35c.; oats, 30c.; wheat, 70c.; potatoes, 60c.; peas, $1 per bu.; hogs, $6.70 per cwt.; eggs, 11c. per doz.; butter, 20c. per lb.; hay, $12 per ton; farm hands, $16 to $18 per month. We have plenty of schools, churches and good people. H. SHEARER.

R 2, Mt. Carmel, Ill., April 20, 1903.

Located about 10 miles from Cadiz, the county seat of Harrison Co. Location hilly and rough. Wheat looks fine; fruit about all killed; not much plowing done yet. Wheat is worth 70c.; corn, 60c. per bu.; eggs, 10c. per doz.; butter, 22c.; live hogs, 6¼ to 7c. per lb.; cattle high and in good demand.

C. R. GREEN.

Hattonia, Ohio, April 21, 1903.

Located in Middle West Arkansas, 8 miles north of Waldron, the county seat of Scott Co. Good schools, cheap land, lots of pine, oak and hickory timber. We have had a very mild winter; an excess of rain; nice farming weather now. Wheat, oats, corn, cotton and cow peas are the principal crops. Corn, 60c.; wheat, 80c.; oats, 50c.; peas, $1.25 per bu.; good cows, $25; good horses, $100 per head; chickens, $2.75; eggs, 8c. per doz. HATTIE LASITER.

Belva, Ark., April 18, 1903.

We are situated in Suffolk Co., 51 miles from New York City by Long Island R. R. It has been a cold, wet spring so far; not much farming done yet. All kinds of grain and fruit do well here. Land is worth $25 to $300 per acre, according to improvements; wheat, 80c.; corn, 50c.; oats, 40c. per bu.; hay, $20 per ton; horses, $25 to $300; cows, $30 to $50 each; farm help scarce, $25 to $30 per month and board; house help, $3 to $5 per week. The farming land is heavy loam, mostly level; plenty wood land. Am within one-half mile of churches, stores, post-office and railroad station; one and a half miles from Long Island Sound; north side of Island. SAMUEL POWELL.

Box 33, St. James, N. Y., April 23, 1903.

This country is located between the Big Blue and Republican Rivers. Winter wheat looks fine, and a great quantity of it. The peach trees are loaded with bloom. There are some of the finest peaches grown here, and fine apples; wild grapes, plums and gooseberries can't be beaten. A great corn country, and a vast number of fat cattle and hogs are shipped from here. Prices: Hogs, $6.80 per cwt.; beef, 6 to 15c.; butter, 15c. per lb.; eggs, 11c. per doz.; oats, 30c.; corn, 28c.; alfalfa seed, $7.20; wheat, 52c.; cane seed, 20c.; potatoes, 45 to 50c. per bu.; calves, $2.50 to $10 each; onions, 2½c.; cabbage, 2½c.; parsnips, 3c. per lb.; sweet potatoes, $1.60 per bu.; flour, from 85c. to $1.05 per sack; hands on farm, $18 to $20 per month, $1 to $1.50 per day.

MRS. J. B. ADAMSON.

Nora, Neb., April 18, 1903.

Situated in Orange Co., Ind., near the N. A. & P. turnpike. The country is hilly; the valleys fertile, and uplands respond well to fertilization and tillage. The growing wheat crop came through the winter all right and looking very prosperous, though we had a very turbulent winter of sudden changes, rain, sleet and snow, and still raining much of the time, and farmers very much behind with work. Crops were good last year and all feeds are plentiful and farmers hopeful. Pastures coming on early and stock being turned on. Roads the worst ever known, and gravel roads being built. Land is being leased to bore for oil, and the price is going up, as a new railroad and gravel roads are coming. Health good. Stock in good condition. Prices better than for years. Horses, common plugs, from $40 to $100; cattle good; hogs, 6c. per lb.; sow and pigs, $15 to $40; corn, 40c.; wheat, 70c.; Irish potatoes, 60c.; dried apples, $1; clover seed, $7; timothy seed, $1.50 per bu.; eggs, 12c. per doz.; butter, 15c. per lb.

WM. T. WRIGHT.

Chambersburg, Ind., April 22, 1903.

This climate is healthful. There is an abundance of pure water, every farm having never failing springs of good water, and when wells are preferred water can be obtained at from 25 to 40 feet depth. A well 60 to 70 feet is thought very deep on some of the higher lying places. There is an abundance of good timber. All through the "coal famine" cord wood was cut and delivered in town for from $2 to $3 per cord, so no scarcity of fuel. This cannot be called a grazing or stock raising country, although many fine horses, mules and cattle are raised. Most farmers raise hogs enough to supply their families with bacon, and I think all kinds of stock are generally healthy; we seldom hear of any disease. Timothy hay grows very well here, and I have seen fine crops of clover, but it is not a sure crop; does badly some seasons and on some places. Cow peas do much better and make good feed. Tobacco is the main crop, followed by wheat. Corn and oats are also grown. We often have a "dry spell" which cuts grass and other crops short. One great need is more settlers, steady, industrious farmers, with money to buy and improve. Most farms are too large. We have variety of soil; some fields soft gray land, then just close by stiff red clay. Several families from the North and West have bought farms in this and adjoining counties lately. Most of them are paying big prices, but there is plenty cheap land left. I know farms that have changed hands at from $3 to $5 per acre; plenty from $5 to $10 with good buildings, orchards, etc. Fruit does very well here, but is much neglected. MRS. E. R. LANGSLOW.

Farmville, Va., Box 33, April 21, 1903.

This section of the country is situated in the northeastern part of South Carolina, between the Big and Little Pee Dee Rivers, in Marion Co. A new railroad has just been completed; it offers liberal terms to truck growers. Tobacco is the principal crop; average price, 15 cents per pound. Cotton is also raised; strawberries are raised along the railroads; the crop is about half gathered. The farmers are behind in their work; they are just planting corn and cotton. There is a fine prospect for a good oats crop. All grains are high; meat, cattle, mules and horses are also high; eggs, about 10c. per doz. The rivers teem with fish. Schools run about 8 or 9 months. The people do not drink much, as they can get nothing but the dispensary liquor, and it is not very good.

LUTHER CARMICHAEL.

Fork, S. C., April 20, 1903.

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A Perfect Washer.—In past issues we have frequently advised our readers to investigate the 1900 Washer Co., and if possible procure one of their machines in order to save themselves unnecessary labor which is usually spent upon the weekly washing. We feel many read this advice in a half-hearted sort of way, satisfying themselves beforehand, that it is useless advice inasmuch as they do not see how they can afford to pay $10 for a washing machine. This is a mistake too often made and we whould like to make a few remarks in the hope of correcting this error in many. These people sell a washing machine which, after exhaustive tests by many of our readers, has been found to do most satisfactory work. The machine is so substantially built that it lasts through an ordinary lifetime. This machine can be bought for $10. Now what is $10 compared with weeks and weeks of tiresome labor? If you have not the $10, to pay at once, the machine may be bought by paying at the rate of $2 per month. Put by fifty cents per week for three months and you have a machine which will help you all your life. Now we know from positive experience that this machine will save every housewife from three to four hours time on her week's washing, and when the work is done she is not physically exhausted. Absolutely no injury is done to the clothes; in fact, the clothes last longer when washed with this machine and the saving on the clothes will eventually pay for the machine. If a woman will devote the three or four hours' time saved by using this machine each week to canvassing subscriptions for the P. F., or any other pleasant occupation, she will soon find that she is not only able to pay for her machine, but will have a little spare cash besides, and by saving her own strength she is able to perform her other household duties to much better advantage and keep the home brighter. It is by learning to economize on things of this kind that you get more out of your life. Do not think you cannot afford a thing, but try to find some means of securing it. Try to utilize the time the machine would save you in some profitable pursuit and you will find there are many household conveniences of this kind with which you can surround yourself. It is not right that you should spend your life in drudgery and exhaustive work, such as washing, when the "1900 Washer" will help you so much. Write to the company, whose advertisement you will find in this issue, and secure their book of testimonials. You will find many of our readers using these machines. Mention the fact that you read the P. F., and be sure to address the 1900 Washer Co., 23 R State Street, Binghamton, New York.

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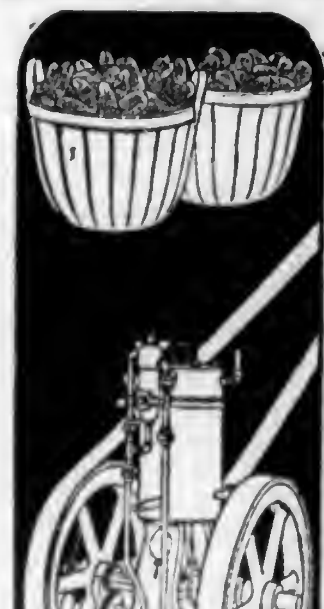

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SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

Be Sure You Are Right, Then Go Ahead.

An interesting letter comes from Pennsylvania. The writer and his wife belong to our hard-working, faithful P. F. family, and have for many years. He is 47 years old. During the past 21 years they have cleared part of the land of timber, got out over 2,000 stumps, mostly pine, and put up good comfortable buildings. A regular rotation has been established and work is going on systematically. They raise corn and have had a silo for six years. They have raised enough silage corn on one acre to supply one cow for more than a year. And they have good cows, too. Eight cows last year gave them $65 worth of butter each, on the average. The entire income from each cow was $80. Our friend says he is confident they can do better yet along these lines. With ordinary yields they will raise all the feed needed for their stock this year. The farm is improving from year to year, on the average. They have now about 60 acres of land under cultivation. Fourteen head of cattle and two horses were kept through the winter. They milked cows all winter. The farm is paid for, but our friends are in debt yet about $3,000. The object of writing was to ask for advice: "Shall we push right ahead in the way we are going, or is there some shorter cut to get out of debt?" My dear friends, do not waste any time thinking of any shorter cut. You are traveling on a safe, sure road. If you leave it to cut across a corner there is no certainty of the result. Your farm is improving decidedly; you are doing better and better with your cows, as well as with your crops. Cow products are paying well. Keep right on improving and a few years more should wipe out your debt and allow you to lay up something for old age. A man with 60 acres of good land, and that has improved his cows until they bring him $80 a head in a season, and who can raise all the silage a cow can eat to advantage in a year on one acre of land, and who has got his farm well supplied with buildings, has done well. He has reason to be proud of his success, taking also into account the fact that he has raised a good sized family. Yes, yes, push right ahead. I would not discourage the trying of something new, in a small way, like alfalfa, for example; but stand by your regular line, with no thoughts of decided change. One important matter comes to my mind. You do not say whether you have cement floors under your horses and cows in the stables. If you haven't, let me urge you to not neglect the matter. It will help you decidedly about improving the fertility of your soil. It will save you much potash and considerable nitrogen. You grow red clover regularly. That will be a great help. With this clover, and the cement floor and good tillage, you may be quite independent of the fertilizer agent. The above is given to encourage other friends, who may not be as far along, to follow after this man, as well as to help the man himself. A cow to the acre the year around; $80 income from a cow in a year; cows warm and comfortable and well fed in the winter and money coming in every day, are you all doing as well as this? I am afraid some of you let your cows go dry in winter when milk and butter are highest in price and you haven't very much work to do. Think of these things, good people, each one of you, and see if you are doing your best along all of these lines. The P. F. earnestly wants you to, and will gladly help you on any point, in every way within its power.

Shall He Hire Help, or Work Alone?—A letter from a New England State is not so easy to answer as the previous one. A farmer has about 65 acres of land and is in debt $250. He has comfortable buildings for family and stock. The stock consists of five cows, one horse and a few hens. The man is usually well and a faithful worker, using no tobacco nor liquor, and wasting no time loafing. But the wife's health is not good. She has a little help from daughters, but they are young and must go to school. More than that, they have to be carried part of the time. The wife is entirely unable to board hired help, so if the husband has any he must hire by the day and pay them 20 cents an hour. Further, he has to help his wife some in the house about washing, etc., as they cannot afford to pay a woman $3 a week. The income from the cows averages about $30 a month. They sometimes have some potatoes, or something else, to sell, but not much. The hens help about paying for the groceries. The cry is, "What shall they do?" To hire a man and woman by the month they think would swamp them entirely. Shall they try it, or shall they continue one-man farming? The above is the substance of the letter and brings up a very serious question, one that hundreds of farmers are facing. Labor is high, and still one-man farming is pretty disheartening sometimes, particularly with a half sick wife indoors. I should say a good deal depended on the condition and fertility of the land, and also on the kind of help that can be got and the ability of the farmer to make a hired man's work count. If the land is unproductive, it is a hard case indeed. If it is reasonably fertile, I, myself, under the same circumstances, should think my way out was to gradually get all the good cows the land could be made to carry and keep a man and woman the year around. But I dare not advise any one else to do this. I have purposely put this letter after the one from Pennsylvania, so that one might be suggestive to these friends. If the land is all right, a smaller debt than our Pennsylvania friends carry will put you on your feet and in good working order, with a prospect of paying out in a few years and then laying up something. More than that, you will have a chance to make things go. Such discouraging work as you are doing now is hard indeed. But what has been said is only suggestive; you must decide the matter. You know what the land is and your ability to manage more business. Your income from the five cows is quite good. If you had 15, or more, if you could carry "a cow to the acre the year around," it seems as though there would be a fair chance to work out. But, now, if you decide to continue the one-man farming I should certainly increase the poultry business. It pays well where you live and one man can care for quite a good many hens. Perhaps your wife's health would be benefited by out of door employment of this kind, and she could do enough at this light work to pay a woman and regain her health, too. Pardon me, but from your letter I judge her poor health comes partly from overwork and worry. Yes, if I were to take your place, and do the farm work alone, I am sure I should increase the poultry business as fast as I safely could. Keep the five cows, so as to not lose that income, and do nothing else but grow feed for them and the poultry. You can work up in this line without going in debt much and without serious risk. Go slow; feel your way along. Grow into the business; but do not go into it headlong. Increase as you learn and find that you can make it pay. We wish you success and that we could do more for you. We feel that the wife will get better when your prospects brighten. Arrange so that she shall live out of doors all that is possible, and make kitchen and bed-room as nearly out of doors as you can, by having all windows and doors wide open.

Old Orchards in Massachusetts.—Miss S. A. Warner, Pittsfield, kindly gives us her experience along this line. As it differs from my own views, as lately expressed, I am glad to publish the substance of her letter, so our people can hear all sides and then judge what is best for them. "On our place is an old, old orchard. Until three years ago nothing had been done for it in the memory of anyone living. At that time it was plowed and trimmed, and heavily fed with hog manure and commercial fertilizers. Squashes were planted among the trees and the crop was an immense one. Last year the land was plowed all of eight inches deep, and heavily fertilized with barnyard manure, and sowed with oats and peas. To my astonishment the oats and peas yielded very moderately, but there was hardly a tree that was not loaded with fine apples. The Gilliflowers were the finest ever seen in this section. Other kinds were good, some of them very good. I intend to put in oats and peas again and seed down. In Massachusetts I would never cut down an apple tree until certain that no part of it could be preserved." I am surprised that squashes did well under the trees, as they like sunshine. It is not strange that oats and peas and apples did not both do well. Without a very abundant rainfall there would not be water enough for both crops. The trees, with their numerous roots extending everywhere, were probably able to get the bulk of the water. Oats and peas require a great amount and are a poor crop to grow in an orchard, ordinarily. That severe root pruning would tend to produce fruit, if any life was left in the trees, but they may not do as well again.

Saving Fuel and Heat with Rochester Radiators and Dampers.—We have a large "Splendid" anthracite base burner, which warms two, and sometimes three good sized rooms. The pipe goes into the main chimney, which is a tall one. A size smaller "Splendid" warms dining-room, kitchen, bath-room and pantry, and the pipe goes into a lower chimney. Of course the draught is much stronger in the tall one. I knew we were wasting much heat from the big stove, but did not realize how much. It always took nearly two hods of coal for that stove for one in the other, but it warmed some more space. I had thought of putting a damper in the pipe, but feared to on account of gas escaping into the rooms. But last fall we had only about half a supply of coal and could not get any more. Something must be done. I took the pipe up to the tin shop and had a damper put in. It closes the opening up tightly when turned down, but has a hole in the centre two inches in diameter, which is always open anyway. The tinner said he would put one in for me, but I would not use it. When asked why, he said because gas would escape into the room. The putting in of the damper cost me only ten cents. We have found it to work all right. Once in a while, when the fire was low and we wanted to start it up quickly, we have opened the damper for a few minutes; but, practically, it has been closed all the season through. As a result, and I have watched the matter week after week, that stove uses no more coal than the other one. This means that we have wasted, probably, about two tons of coal per year for nineteen years. And it was only necessity that made us make a change. It is so easy to go on as one is doing. A friend told me to put in a damper years ago, that he had one; but I was afraid and did not want to bother to experiment. No doubt a damper in the pipe that goes into the lower chimney would save enough coal to pay, but of course not so much as where the draught is so strong. This is a small matter, but there is no use in wasting fuel that with us costs $10 or $12 a year. A damper would be just as effectual where wood was burned, but with soft coal, perhaps, would not work as well, as that requires more draught. In any case be sure to have a hole in the centre, large enough so no gas will escape into the room when the damper is closed. Do not use a damper without any hole in it and depend on leaving it open a little. Gas in the room from this kind of dampers, in places where I have been, is what set me against dampers in general.

Robert has one hard coal stove, the pipe from which goes up through the ceiling and into the chimney in the bed-room above. Last fall he got a Rochester Radiator of the best pattern and put in the pipe in the bed-room. The result has been perfectly satisfactory. The bed-room was always warm when the rooms below were. The heat that otherwise would have gone up chimney was saved to warm the bed-room, probably as much as one-third of all that came from the coal. I have told you before that these radiators were built on scientific principles and were all right. They will extract the heat from the heat, smoke and gas passing up the pipe and radiate it into the room in a wonderful manner. Where the draught is not strong enough for a damper they will work perfectly, as they do not stop any of the draught. They simply extract the heat from it. When the draught is very strong I would put a damper below the radiator. If we had put a radiator above the damper in the pipe of our large stove, right in the room below, and another one in the pipe

Farmer Fredricks: "There they are, mother; couldn't have pleased us better."

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of the smaller stove, not using any damper there, we could have saved considerable more coal than we did. I knew it, and should have done it, only we were intending to make changes in our heating arrangements this summer and did not want to put in radiators for a single winter. Having got started in that line now, we intend to extract the last practical degree of heat from all our coal in the future, as well as have the air in our home practically as pure as out of doors. Robert was so well pleased with the working of their radiator that he sent for two more for friends of ours. These also have given entire satisfaction. One of them was a cheap one, one of the smallest and cheapest the Rochester people make. The parties using it burn soft coal and wood. It was put in a room above, which was kept comfortable all winter with what would otherwise have mostly gone to waste. I was asking Robert's wife about it this morning and she said the people were so pleased with it that it seemed as though they could not say enough in its favor. The other radiator went to a city. Wife had a friend there, a woman of rather limited means. She has a room through which the pipe passes from the stove below. After wife saw how well Robert's radiator worked she said it would be just the thing for this woman's room, and one was soon put in there. Our friend is delighted to have her room so much more comfortable during the cold weather, and all without the outlay of one cent for fuel. Now, my friends, fuel is likely to average higher in the future and these matters are still more important than they have been in the past. I have written this in good season, while the points were fresh in my mind and so you could have plenty of time to think about how much use you could make of them next fall.

T. B. Terry.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Vetch and Velvet Beans.—"Tennessee Lad," Maryville, Tenn. — "Will the hairy vetch grow on poor land of the ironstone sort, and will the land be improved by using the vetch as winter pasture? If I plant velvet beans after rye, about July 1st, would they mature by October 1st, enough to fatten hogs, the land being same as the above? What is the analysis of corn stalk ashes? Land where piles of corn stalks were burned increased 50 per cent. in crop? What is the best fertilizer formula, and would liming increase the crops on same?" While the hairy vetch may do fairly well on such land, the crop will, of course, be rather small unless you give it some fertilizer. A mixture of acid phosphate, 1,800 pounds, and muriate of potash, 200 pounds, to make a ton, will help greatly if used at rate of 300 to 400 pounds per acre. To amount to much as winter pasture you will have to sow the vetch about the last of August. If eaten off during the winter and then allowed to mature in the spring it will help the land to a considerable extent if the microbe peculiar to the vetch is in the land. The best way to get it there is to scatter soil from an old garden where garden peas have been grown successfully. It will do little good till the soil is thus inoculated. Velvet beans planted the first of July will not get half grown by October. We planted them in North Carolina in April and they barely made seed by October. If you want a hog feeding plant sow the common cow peas. The velvet bean is for sections where there is a longer summer than in Tennessee. A ton of corn stalks will have about 2.8 pounds of phosphoric acid and 8.2 pounds of potash. Then, of course, there will be some lime in the ashes. The improvement of the crops on the spots where the stalks were burned was due not only to the small amount of plant food in the ashes, but also to some extent to the oxidation of matters in the soil itself, and the darkening of the soil by the unconsumed carbon, rendering it warmer. It would to some extent indicate the need of lime and potash on the land. Use the potash with other plant foods to get a good growth of peas and then after you have grown the peas you can use some lime to advantage. What the best fertilizer may be for your land no one can tell but the one who works it, and he can find out by experimentation, as we have endeavored to show in our book on "Crop Growing and Crop Feeding." Lime will not make poor land rich. It will help greatly if used in a good rotation of crops.

Fertilizer.—F. D. Lukens, Macungie, Pa.—"Is this fertilizer all right at $19, delivered at our Station: Guaranteed analysis, 13 per cent. available phosphoric acid and 6 per cent. potash? Want to use it for corn and oats." If the corn is on a clover sod the fertilizer will be all right. For the oats it ought to have some nitrogen added. Use on the oats 250 pounds of the fertilizer and 50 pounds of nitrate of soda per acre. For corn on clover sod use 400 pounds of the fertilizer. The price is a fair one for the goods delivered to your station. If the corn is not on clover sod or grass sod, then we would add some organic nitrogen like tankage, though it seldom pays to use a nitrogenous fertilizer on corn.

Tobacco.—J. W. Reed, Swazey, O.—"It seems to me that I wrote to you in 1902 in regard to the best way to apply fertilizers to tobacco, but have failed to see any answer. My idea is to drill it with a wheat drill and then mark the land off and drill about one-fourth of the amount in the row. Would you advise to follow corn with tobacco, then wheat and clover?" There is no crop grown that is so subject to local and soil conditions as tobacco. The method you propose for applying the fertilizer is as good as any. The main thing is to have the fertilizer compounded right. The following formula has been used successfully here: Acid phosphate, 900 pounds; dried blood, 600 pounds, nitrate of soda, 100 pounds and high grade sulphate of potash, 400 pounds, to make a ton. If we were growing dark shipping tobacco we would never allow any other hoed crop on the tobacco land. That is, we would have a special rotation for the tobacco, of tobacco, wheat and clover, and thus always have a clover sod for the tobacco, and there are tobaccoes grown in Ohio that would be all the better for a corn crop coming in between the clover and the tobacco.

Stopping Gullies. — R. B. McCain, Pansy, Ark. — "I have just bought a farm of broken land that has been terraced, but the terraces have broken, and the land is being washed into gullies. How shall I remedy the evil? What is your opinion of terraces? Are they not an evil? Put in like mine I know that they are, and am tearing them out. Please tell me how to stop a gully and how to put in terrace work that will hold. Is there anything better than terracing in the way of preventing hillsides from washing?" You are up against a problem that has bothered the farmers of the South for many a year, and as the terraces have been made they are usually worse than nothing. The common method in the cotton country is to run ditches around the contour of the hills with a moderate fall and a slight bank on the lower side to check the water. The result is that the ditches wash out into gullies, and the banks on the lower sides become lines of weeds and grass, and disfigure the whole field. If the ditches have a very slight fall to prevent their gullying they are apt to fill up and overflow in heavy rains and carry a flood down the hill to wash great gullies. Made in this way the so-called terraces are a greater evil than none. Terraces made in broad, flat steps down the hill, with perfectly level spaces between, are effective, but cost more than the land is worth. We have some made in this way which are perfectly effective, but the cost is prohibitory to most farmers. The best terrace banks are those known here as the Mangum terraces. These are formed by plowing up broad banks about ten feet wide, with a very gradual fall, and with the horse scoop cleaning out a broad, flat space above them, in which to spread out the water and take it slowly down hill. The rows for cultivation are on the exact level of the contour of the hill, and cut the banks at a very acute angle. Cultivation is then carried on right over the banks, and the best crops are right on top of the banks. In plowing the field the banks are plowed first, beginning on the crest and back furrowing so as to keep up the banks. The spaces between are then plowed and all harrowed alike. This prevents the formation of weed rows across the field, and is the best method yet devised. Something of this sort is necessary in the South till the conditions that have caused their need are overcome. After one has followed a good system of rotation and has gotten vegetable matter into the soil and the fibrous matter of pea roots and other things of this sort in the soil, and the land is deeply plowed and then worked shallow and perfectly flat, and no furrows made for the accumulation of water, there is no need whatever of the terraces. The necessity for terraces has come about through the constant clean culture in cotton and the using up of all the organic matter in the soil, combined with shallow plowing. The shallow plowed part soon filled with water and got into a creamy state and had to run down hill. With deep plowing and subsoiling there will be less and less need for terracing, and with plenty of organic matter in the soil, and flat cultivation, there will be no necessity for the terraces at all. We know what we are saying, for we have cultivated the steepest of hills of this red clay, and have stopped old gullies by deep plowing and flat cultivation. In the first breaking of a gullied field we plowed and subsoiled the hill till it was loosened fully 15 inches deep. Every place that was inclined to gully was skipped by the plow, the effect being to draw the water into the deep broken land and leave the gullies hard. Then at intervals we put in dams of rock in the gullies to gather the sediment above them, and then gradually raised them as the gullies filled. If you have no rocks then drive rows of stakes at intervals across the gully, and pack sods above them to check the water and cause the silt to settle above. Then adopt a short rotation of crops and bring peas on the land frequently to get organic matter in the soil. Our hillsides when first cleared from the forest, do not wash, and if the new ground conditions were kept up by constant restoration of organic matter, there will never be any need for terracing, if the land is broken deeply and worked shallow and flat. The hilling of cotton and corn around the hills makes hundreds of valleys to gather a head of water to break over and make gullies, and the shallow plowing and ridging are responsible for most of the gullies in the South.

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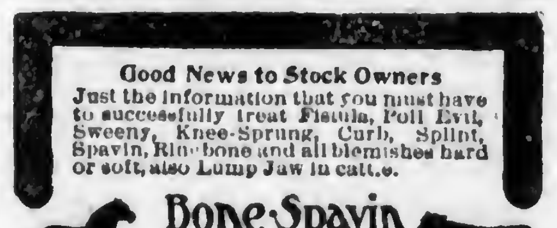

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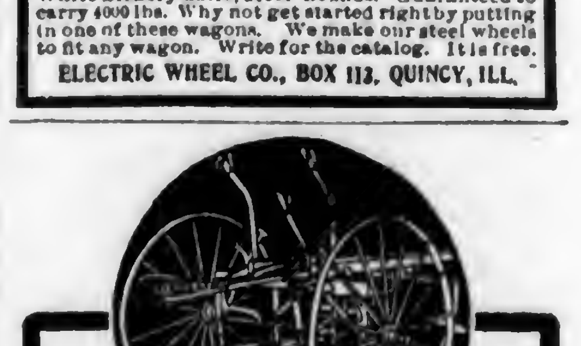

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Bringing up a Run Down Farm.—M. Hamm, Windsor, Conn.—"I am trying to restore a run down farm. Am following a three year rotation of corn, cut for silo, rye and then red clover. What fertilizer shall I use for the clover and when to put on, after the rye is cut or the following spring? My manure goes on the corn. How would fine ground bone at $25 per ton, and muriate of potash at $44 per ton do mixed half and half and about 400 pounds per acre after the rye is cut and just before a rain? Please give me a formula for corn and potatoes from the bone, potash and nitrate of soda at $46 per ton. Rye straw is worth $20 per ton and often more." You are starting right in using a short rotation. But the bone is a rather costly form in which to get phosphoric acid. You can get that more cheaply in the dissolved rock or acid phosphate, which is worth, here, about $10 per ton, and should not cost you much more. It would have been better to have applied a good dressing of a complete fertilizer to the rye and to have depended on that to carry the clover. But as this was not done, the best thing you can do now will be to give the young clover a dressing of 350 pounds of acid phosphate and 50 pounds of muriate of potash per acre. For potatoes mix 900 pounds of acid phosphate, 600 pounds of cottonseed meal, 100 pounds of nitrate of soda, and 400 pounds of muriate of potash, to make a ton, and use not less than 800 pounds per acre. The same mixture will do for corn at rate of 400 pounds per acre. Crops that grow through the summer need some organic nitrogen, as the nitrate of soda, though speedy in its action, is too evanescent in its character, and organic matter like cottonseed meal or fish scrap will keep up nitrification during growth of the crop.

Garlic or Wild Onion.—B. L. Phillips. —"Is the garlic in Virginia the same as in Ohio? If not please state the difference. If the cows have eaten the garlic that grows in Ohio I can hardly eat the butter, but I was in Virginia the early part of March, and ate some of the butter from cows that were pasturing on the garlic and could not taste it at all. I am thinking of settling in Virginia and would like to know if there is any way to kill it." The garlic or wild onion of Virginia is the same thing as the garlic in Ohio, and has the same effect on the milk and butter if nothing is done to prevent it. A lady in the upper part of North Carolina has found a preparation that will destroy the taste if it is fed to the cows, and she has the highest chemical authority to say that the stuff she gives the cows is perfectly harmless. We believe there is a firm in Danville, Va., making this preparation and selling it. They should advertise in the farm papers, for if it is effective it will be a boon to the dairymen. Now do not write to us to tell you where to get it for we have told all we know, and any further information must come as an advertisement. The garlic can be killed out in cultivated land by a succession of smothering crops, but it is hard to conquer in a permanent pasture.

Canaigre.—W. A. Utt, Garrison, Tex. —"Please publish in the P. F. a description of Canaigre, the plant used for tanning leather. State where it can be sold, methods of culture and soils best suited to it. Is it the common red dock? If so it is growing wild here." Canaigre (Rumex Hymenosepalus) is a plant belonging to the same genus as the common yellow dock, the beet and rhubarb. It grows wild in Texas, Arizona, New Mexico and Southern California, and is the plant, probably, which you call red dock. The roots look somewhat like sweet potatoes, and grow in clusters below the surface of the ground from two to a dozen in a cluster, the single roots varying from two ounces to over a pound each. It has long been used by the Indians for tanning, and has recently attracted attention as a source for tannin. The California Station reports that "The gatherings of the wild roots have been so large during the past few years that it is difficult to obtain it in quantity, and plantations recently made in New Mexico have proved profitable, $5 per ton being paid for the green roots, which are worth $60 to $80 per ton when dried and delivered in Europe. The yield in cultivated land is said to reach 16 tons per acre of the green roots." Whether any further experiments have been made or not we cannot say. Some years ago a lot of the seed was sent to the North Carolina Station for test, but as they failed to germinate there was no result. Probably your Experiment Station, at College Station, Texas, can give you information in regard to it, and the place to sell the roots. Or you might write to the New Mexico Station at Mesilla Park, N. M., and get full information in regard to the plant and its culture. The Department of Agriculture at Washington published, some years ago, a Farmers' Bulletin on Canaigre, and you may get a copy of this by writing to the Secretary of Agriculture, Washington, D. C.

Velvet Bean.—I made an experiment last year; drilled in two varieties of soil, one a sandy loam, the other clay loam; planted about the middle of May. Not more than half the seed came up; what came up was in a short time after planting, showing the ground was warm enough to bring up all kinds of beans. The ground was very rich, and what came up made a very large growth, but never formed a pod that I ever saw; they bloomed freely, but not until about the first of September; all blooms died before forming a pod. I came to the conclusion they are not worth planting in our climate, as it is hard to get perfect seed. I grew them directly alongside of Black cow peas, which gave a large show of forage about four feet high. They were drilled in with corn planter drill and doubled the same to nineteen inches; worked several times with cultivator closed up. Velvet beans sowed on the same day, drills thirty-eight inches apart, and all worked alike. This to warn all farmers not to plant velvet beans as long as the cow peas flourish as they do with us.

Centreville, Md. SAML. T. EARLE.

◆

"For the land's sake"—use Bowker's Fertilizers. They enrich the earth and the men who till it. Address nearest office, Boston, New York or Cincinnati.

◆

Mail Order Buying.—Our readers will find in our advertising columns the name of a New York business house that is probably new to them, but an old-established institution nevertheless. We refer to R. H. Macy & Co., the world's original and largest department store, who began business in 1858, and are now occupying their magnificent new structure on Broadway at Sixth Avenue, between Thirty-fourth St. and Thirty-fifth St., the commercial centre of New York City. This structure has eleven floors, an aggregate floor space exceeding twenty-four acres, and with all its modern improvements is one of the show features of the metropolis. Over 5,000 employes are required to carry on their extensive business, and a capital of five million dollars is invested in the main store, its branches in Europe and factories in America. They have their own laboratory, where all drugs, groceries and candies are packed, besides the china decorating and glass cutting departments right on the premises. The firm are now compiling a large catalogue for mail order buyers; their publication will be a virtual encyclopedia of reliable merchandise, priced at very low figures, and should be in every household, as it gives the buyer the right prices on every necessity for the home and farm. Mention the P. F. when writing this firm.

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While they last. Smooth and solid. Early Rose, 60 cents per bu.; Carman No. 3, 70 cents; New Queen, 75 cents. Cash with order. WILLIS R. KNOX, Intercourse, Lancaster Co., Pa.

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Made from extra staple cotton in a way to fortify it against wind, rain or hail; is the only perfect cloth for growing
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under shade. Our patents cover strengthened edges and cross strengthening cords. Made in widths of 144, 200 and 288 inches.
The wonderful results obtained with shade-grown tobacco are bringing to the attention of gardeners the advisability of using it for vegetables and flowers. Experiments at *Government and Cornell University Experiment Stations* last year show 25% to 40% increase in quantity and quality of Beans, Cauliflower, Lettuce and like crops. Every tobacco grower, gardener or farmer only needs try the experiment.
Free Samples and Circular with Prices on request.
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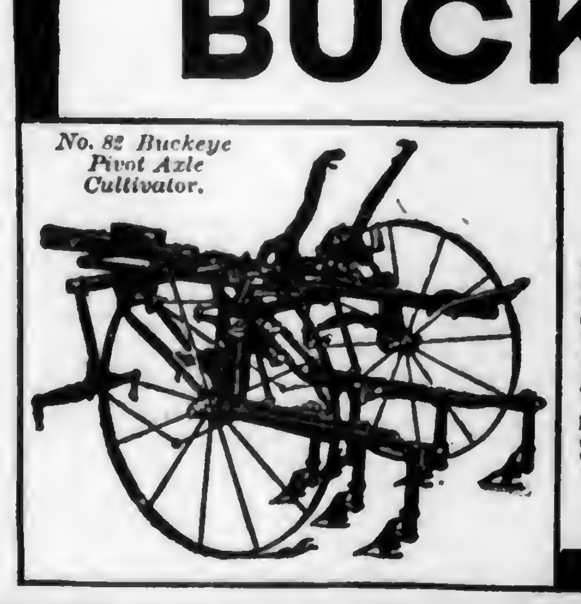

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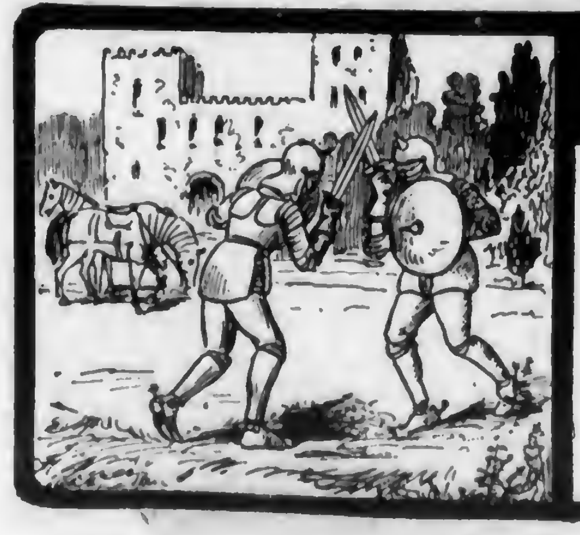

IN DAYS OF OLD
In days of old men fought in armor bright,
And crops neglected died of winter's blight.
In modern days men sow and reap the grain, and
DEERING BINDERS
Help to make their gain.

Live Stock and Dairy.

☞ If stock breeders who have live stock to sell will use the columns of the P. F. they will be surprised at the results. A 4-line stock advertisement inserted one year will cost $37.44, only $9.36 per quarter, and will keep your business in a healthy and profitable condition

The Value of Quality.

PROF. A. M. SOULE.

Probably more of the failures in feeding beef cattle may be traced to the type of animals employed than to any other factor. One must become a student of animal quality and characteristics to fully appreciate the influence the animal has on the profits from feeding. The difference between good and bad types when brought to the final test of a beef animal—the block, is so great that anyone who has not made a study of the subject could hardly believe such differences could exist in animals of the same race. An illustration based on actual observation may serve to make the matter clear: Two animals presented for slaughter made approximately the following record: The poor one dressed 40 per cent. of the live weight; in other words, 60 per cent. of its gross weight was offal or waste products. On weighing up the fore and hind quarters when cut as ordinarily done by the butcher, the fore quarter was found to weigh the most. On examining a section through the loin from which the tee bone or porterhouse steak is cut, it was observed that there was comparatively little meat in this region. The tenderloin was very small and the sirloin very thin. The color of the meat was a dark blue and it had a coarse fibrous appearance. The round was also small and restricted. The meat from this animal when cooked; and the writer speaks from experience, was of a dark color, stringy in texture, and of exceedingly poor flavor. Nor is it composed of those rich, nourishing qualities one would expect to find in a good steak. Do not imagine the picture is overdrawn, for there are many abattoirs where such animals are being slaughtered today and it will not be a difficult matter for anyone doubting the statement to find a practical illustration.

The good steer, when slaughtered, dressed out 60 per cent. of his live weight. In other words, there was 20 per cent. less offal in connection with the slaughtering of this animal than his companion. When the carcass was divided it was found that the hind quarter outweighed the fore quarter considerably. This was as it should be, for the hind quarter, the loin, the rump and round produce not only the best quality of meat, but the meat that brings the highest price. In other words, should the fore quarter bring 5 to 6 cents, the hind quarter would bring from 8 to 10 cents at wholesale. In this case the retail butcher would obtain from $10 to $15 more for the meat of the hind quarter, whereas, in the case of the poor steer the fore quarter would bring in quite as much as the hind quarter. It is quite evident that the poor animal is thus not so profitable to the butcher as the good animal, while infinitely less profitable to the owner. On examining the hind quarter, or, for that matter, the whole carcass of the good steer, the meat will be found to be well marbled; that is, the fat and lean well intermixed. The development of the loin and sirloin, and, in fact, the whole hind quarter, is very much greater. The meat covers every part of the bone and swells out and spreads over it, as it were. It has a rich red color, an evidence of a healthy and well nourished animal. When cooked it has a fine, rich flavor and an enticing tenderness. It is the kind of meat to make red corpuscles, to leave a sweet taste in the mouth, and make a man happy all day long.

What a contrast the foregoing pictures present and yet it has not been overdrawn; that would be impossible. It calls to mind, however, two types of cattle raisers; the one a progressive and up-to-date man; the other a slovenly and indifferent creature. The one makes a nice profit from his business and speaks of it in the most encouraging manner. He looks upon it with pride; it is his profession and he delights to measure up his skill in moulding the form and quality of the animal to suit the market demands. His neighbor cares nothing for such matters. He has a large area of cheap land; he does not feed and care for his animals; he illtreats them; lets them rustle for themselves, and then fondly imagines that he grows his beef for practically nothing. He proclaims to all the world, a fact already well known, that there is no profit in the cattle business. Why will sensible men continue to follow such destructive methods in the production of beef? How can sensible men delude themselves into believing that a good beef animal can be made without the exercise of effort and skill and the utilization of plenty of good food? What is the reason they cannot see they are dissipating their own energies and losing an opportunity to make money and a comfortable home for their families through following such indifferent methods in the production of beef cattle. The results of this practice are so apparent that it would seem that all sensible men would forsake such methods at once. If they would the profits from the cattle industry would increase amazingly in the next few years and this profit would go directly into the hands of the producers. These ideas have been presented in the hope of getting the small farmer to think about the importance of giving better attention to his live stock. On nearly every farm there are a small number of animals that could be made into profitable beef animals each year. At present they are not worth much, nor do they bring much because of the neglect to which they are subjected. Not many people can really understand what stunting an animal means. The practice on many farms is to let the young calf run with the dam for a few days. It is then well nourished and cared for. Presently it is taken away and put on skimmilk, which is probably fed in a sour condition and no adjuncts are supplied to take the place of the fat which has been removed in the cream. The digestion of the animal is very similar to that of man. Imagine a young child being given sour milk for a steady diet. The result is not hard to determine. If the young calf survives the white scours, which it is very likely to have, it is generally a stunted, long-haired, wretched looking little creature. Should this dire experience happen to come in the spring, it may pick up some on grass, but one who has observed calves so treated, as compared with those receiving normal treatment is aware that it will always remain a stunted, scrubby animal. It never gets over the tremendous shock to its nervous system which this unreasonable and cruel change in food brought about. Stunting thus means a permanent injury to the development of the animal and it is a great pity that this truth could not be more generally recognized. Why should a man ever do that to his animals which will permanently injure them and thus militate against his own profits. Only one answer can ever be given to that question, and that is that he does not fully realize the extent of the injury. The stunting already referred to means to arrest temporarily at least, the performance of certain functions in the body, the nourishment, it may be, of certain sets of muscles. Suppose these muscles are those in the region of the loin, as they are very likely to be. Does this not account in part for the frequent lack of development discovered in this region? It is the firm belief of the writer that it does, and so the stunting of the young animal very often has a serious effect on its ultimate development.

It is well for the feeder to remember that a fault in the animal can never be entirely corrected. A lack of nourishment in the case of sheep is shown by a contraction of the spirals of the wool. The wool shows the effect of impaired circulation from whatever cause, indicating how sensitive the organization is and how quickly maltreatment shows its effects. Healthy and normal growth is what the stockman needs in order to be successful. It can easily be brought about by giving attention to the care and feeding of the animal throughout its whole life. It pays to treat animals well. It pays to feed them generously. They must be kept growing uniformly all the time. They should be fed so as to keep them growing each day; they will then make a vigorous development of all the parts of the body, reach an early maturity and produce a type of animal that kills well, produces a choice quality of meat which is distributed on the parts of the body where it is most valuable, and hence brings the farmer the largest cash price. Why should an animal sell for 2½ or 3 cents a pound when it can be made to sell for 6 or 7 cents? There is no reason in the world why both animals, if given the same treatment, should not show equal merit on the block and an equal profit to the owner.

Tennessee Experiment Station.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Abortion.—I have a milch cow that gave birth to a premature calf. Her feed during the winter has been alfalfa (a first-class article), wheat bran and about half a 10-pound pail of small potatoes; also a measure of seed meal. These measures hold about a heaping tablespoonful. This animal has been stabled at night and during stormy days; has had plenty exercise. Will potatoes, seed meal or pine needles cause a cow to abort?

Hermosa, Col. O. L. SMALLWOOD.

It is absolutely impossible to say what caused this abortion, but it may be confidently stated that there is no evidence that either one of the things you mention was responsible. Potatoes, if spoiled or greened by the sun, might cause it. Pine needles we know nothing about, but it seems improbable that enough would be eaten to do harm. There are a hundred and one things that may cause abortion, and we are, of course, unable to decide what cause was here effective. It is plain, however, that you should isolate this cow from other pregnant cows and treat her with antiseptics, as we have so often advised for abortion. This is wise in that it may prevent contagion if that has been the cause. She should not be bred again until time arrives when she would have been bred had she not aborted.

Fibroid Tumor. — Please inform me what will remove a "sitfast" from my horse's back. It was caused by saddle and has been on his back for about one year.

Thompson's Sta., Tenn. N. D. MARTIN.

There is but one proper way of treating a sitfast and that is to dissect it cleanly out and then treat the wound until healed. A fibroid tumor has formed in this case and it should be cut out if it is so desired, as that is the only treatment that will remove it. Afterwards keep the wound clean and wet it often with a solution of one ounce of sugar of lead and six drachms of sulphate of zinc in a pint of water, which should be well shaken before use.

Lameness.—Have a horse which is lame in forelegs. The pastern joints seem enlarged at each side by bony growths and there are large windgalls on both sides of joint. Please give treatment.

Doss, Tenn. C. W. JORDAN.

The proper treatment for this condition would be to fire and blister. If this cannot be done, then clip hair from entire part involved and blister twice a month with cerate of cantharides rubbed in for 15 minutes. The method of firing to be followed in this case is "feather" firing. A line is drawn with red-hot feathering iron down back of leg from under knee to ankle; then on each side of this line other lines are drawn one inch apart in a slanting direction across side of leg, the lines thus made inclining from above downwards. We should say from description that the horse has osslets and windgalls.

Warts. — What is the matter with my yearling steer? He has what looks like warts under his belly, and his bag looks as if he had not been altered; there is a wart on his neck as large as a hickorynut.

Auburn Placer, Cal. W. R. GAYLORD.

Warts of this sort are very common on cattle, and indicate a peculiar abnormal condition of the skin. They are in no way contagious or infectious. Treatment consists in applying Fowler's solution of arsenic to the warts once or twice daily and giving this medicine internally night and morning in half-ounce dose until the warts disappear, when it may be gradually discontinued. There are many strong caustics which may be used, but where there are a great many warts the arsenic solution does especially good work. Large warts having a narrow neck should be cut off or ligated by means of a small rubber band or cord, but the arsenic may be used upon them after this has been done. Glacial acetic acid applied once daily is also effective.

Enteritis. — I had five shoats which I have kept continually for four months in a pen 15x8 feet. Have never allowed them out of the pen, but have cleaned it every day. When put in pen they were about two and a half or three months old. Have kept them growing well, by feeding raw potatoes, and bran and shorts in milk; for three weeks have fed no potatoes, but have fed some apples. A few days ago I gave them in the evening, about half the offal from a beef. They ate the lungs, the emptied paunch and a few of the entrails. The next evening one was dead and the morning following three more were dead; the remaining one seemed sick for a couple of days, but now seems all right. They bloated up immediately after death and turned purple about the mouth and under side of body, especially between the legs. Have fed offal before to shoats and never noticed any ill effect excepting that it sometimes caused diarrhœa.

Bandon, Ore. F. M. PERKINS.

It would seem that the eating of entrails, etc., killed these hogs, but you do not state what was the condition of the steer. One would suspect that the animal must have been diseased to cause this sickness among the swine. They died from acute inflammation of the bowels (enteritis) such as is caused by feeding brine, and we would suspect that there must have been some such irritant fed in this case or some disease in the animal whose entrails were used. On general principles we have found it bad policy to feed entrails to hogs. In addition to what has been said it should be remembered that the case described suggests cholera and that disease might be the cause of death rather than the entrails which were fed.

Broken Wind, etc.—1. Have a mare 7 years old, which when exerting herself breathes loud; does not breathe loud after she stops. 2. Have a mare 5 years old which has had one colt, but will not breed since. 3. Give remedy for splints. 4. Five-year-old mare when worked gets the thumps. Please give remedy.

Foosland, Ill. C. H. SMOTHERS.

1. This mare may be a mechanical roarer. That is, she may have a thick throat latch and when worked gets her head down so that she shuts off her wind, as horsemen say, and causes a roaring sound. Such animals are usually very nervous and too anxious to get ahead. Work her with an overhead check so she cannot get her head down between her forelegs or even curve her neck. Also be careful to work her after she has had time to digest her food, and do not feed her any hay during the daytime. Feed a little hay very early in the morning and again late at night. 2. If mare has not a discharge from vagina and comes in heat regularly she may be successfully bred by artificial means, as advised in a recent number of the P. F., where instructions were given as to use of one-ounce gelatine capsule for this purpose. Read instructions referred to. If you cannot find the article write again and we will give them over again. 3. Blister with biniodide of mercury, one and a half drachms; lard, one ounce; mix. Rub the blister in for 15 minutes. Do not wash blister off; in three days commence applying lard once daily. Repeat in two to three weeks if necessary, and if skin is not too sore. In bad cases the firing iron should also be used. 4. Turn her out on good pasture for six months. There is little that can be done in such cases other than rest with succulent food, such as grass, far indigestion is often the cause.

Profuse Sweating. — Can you tell me something to do for a mare that sweats profusely when driven or worked a little? Have been feeding dry corn fodder, timothy hay and ear corn for grain. She has not shed her hair for quite a while. What can I give or feed her to make her shed her coat and prevent that profuse sweating?

Fairview, Pa. LEVI R. MARKWOOD.

When a horse sweats profusely at this time of the year when worked even lightly, or on standing in the stable after work, it is evident that he is in a soft, flabby condition and doubtless suffering from indigestion. In our experience it is the feeding of corn and other heating grains during idleness and especially in hot, badly ventilated stables that induces this weakened condition. The first step should be to have the mare clipped. This will always do away with most of the sweating, and often cures the indigestion without the use of medicine of any sort. Also see to it that the stable is cleaned out and whitewashed and that the ventilation is made first-class. Stop feeding corn and fodder and substitute oats and prairie hay. Oats go to make muscle and give vim and vigor for hard work in spring, while corn merely goes to form fat and produce heat and is not indicated in the spring and summer feeding of work horses. You would also find the addition of a little dried blood meal to the oats ration helpful in building up the strength of the horse and preventing the sweating which indicates weakness. We have often seen the condition due to contamination of the drinking water with leachings of the manure pile, and too much lime in the water will also set up indigestion and cause the same symptoms, so that the water supply should be looked to and soft water substituted for hard water, if that is what you have been giving. New Orleans molasses is also a capital food in conditions such as those shown by your mare, but it attracts flies. It is used mixed with a like amount of water and is then incorporated with cut hay, bran and corn meal or crushed oats. We do not think medicine will be needed in this case, but should you fail to cure her from above feeding and management, give her the medicines so often prescribed in this department of the P. F. for chronic indigestion.

Corns.—Have a mare 12 years old. She gets so lame in front feet she can hardly walk. When trimming her feet to shoe, find bloodshot places inside of rim of hoof and the walls of feet are loose. What is the cause, and can they be cured?

Thayer, Mo. PHILEMON FRISBIE.

As a rule, when bloodshot spots are found on the sole of a horse's foot they constitute either corns or stone bruise, but as in this case the animal can scarcely walk, it would seem that founder has been the cause of the disease and condition of the soles of the feet. Better have the soles pared down a bit, then stand the feet in hot water for hours at a time for four days, and each time feet are removed from soaking tub put on flaxseed meal poultices. In a week clip hair from coronets of both forefeet and blister well with cerate of cantharides, repeating the blistering in two or three weeks. A week after each blistering turn horse out on soft, low-lying grass field. The horse should not be worked before his feet are grown down sound and strong. This may require all summer, but there is little use in attempting to patch him up for temporary work. If you find that there is a convex condition of the sole at point of frog and much pain is evinced when that part is struck lightly with a hammer the horse has been incurably foundered and has dropped sole. Such animals may be treated as above and eventually worked when shod with wide-webbed bar shoes over oakum and tar packing and leather sole.

Fungoid Growth.—I have a mule that four or five months ago hurt its foot just above hoof on front side of hind leg. Owner says he pricked it on a cane. The mule was not cared for at all. It is now twice as large as it should be; the flesh has grown out over hoof; it looks like a wart. How should I treat it?

Rome, Miss. S. B. FERGUSON.

We do not think it would be safe for you to attempt an operation on this foot, as it is easy to cut out the growth but difficult to heal the wound and secure a normal growth of horn after the operation has been performed. Tie mule so he cannot bite part. Cleanse wound well with soap and hot water and, when dry, wet it with a solution of one ounce of chloride of zinc and two ounces of sulphate of zinc in a pint of water. This medicine can be procured from any druggist. Repeat the application of this solution three or four times daily until the growth is cut down greatly, then stop use of lotion and use instead an ointment made by mixing together one drachm of iodoform and two drachms of tannic acid in an ounce of lard. After this has been done, if wound is not healed write again and remind us of treatment here prescribed. We will then be glad to advise you further.

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CREAM SEPARATORS
ARE SO MUCH BETTER THAN
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BECAUSE.—They are constructed under many all-important patents, which cannot be used by any other manufacturer and which enable De Laval machines to skim cleaner and produce a more even and more thoroughly churnable cream than is otherwise possible, at much less speed and wear, and with much greater ease of operation.

BECAUSE.—The De Laval makers have ever been first and foremost in the manufacture of Cream Separators throughout the world—have ever led where others follow—their factories being among the finest machine shops in the world and their knowledge of Cream Separators far greater and more thorough than that of any comparatively inexperienced would-be competitor.

BECAUSE.—The one purpose of the De Laval makers has ever been the production of the very best Cream Separator possible, regardless of cost, instead of that mistaken "cheapness" which is the only basis upon which any would-be competitor can even make pretense of seeking a market.

BECAUSE.—The vastly greater sale of De Laval machines—ten times all others combined—enables the De Laval makers to do these things and much more in the production of the perfect Cream Separator that no one else could attempt.

A De Laval catalogue explaining in detail the facts here set forth may be had for the asking.

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Dr. Shoop's
Rheumatic Cure
Costs Nothing If It Fails.

Any honest person who suffers from Rheumatism is welcome to this offer.

I am a specialist in Rheumatism, and have treated more cases than any other physician, I think. For 16 years I made 2,000 experiments with different drugs, testing all known remedies while searching the world for something better. Nine years ago I found a costly chemical in Germany which, with my previous discoveries, gives me a certain cure.

I don't mean that it can turn bony joints into flesh again; but it can cure the disease at any stage, completely and forever. I have done it fully 100,000 times.

I know this so well that I will furnish my remedy on trial. Simply write me a postal for my book on Rheumatism, and I will mail you an order on your druggist for six bottles Dr. Shoop's Rheumatic Cure. Take it for a month at my risk. If it succeeds, the cost is only $5.50. If it fails, I will pay the druggist myself—and your mere word shall decide it.

I mean that exactly. If you say the results are not what I claim, I don't expect a penny from you.

I have no samples. Any mere sample that can affect chronic Rheumatism must be drugged to the verge of danger. I use no such drugs, and it is folly to take them. You must get the disease out of the blood.

My remedy does that even in the most difficult, obstinate cases. It has cured the oldest cases that I ever met. And in all my experience—in all my 2,000 tests—I never found another remedy that would cure one chronic case in ten.

Write me and I will send you the order. Try my remedy for a month, as it can't harm you anyway. If it fails it is free.

Address Dr Shoop, Box 577, Racine, Wis.

Mild cases, not chronic, are often cured by one or two bottles. At all druggists.

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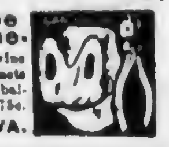

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A Safe Speedy and Positive Cure
The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish.
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THE SPRING WORK is sure to bring sore shoulders. You need not lay your horse off a day if you use
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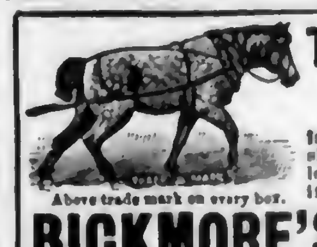
Above trade mark on every box.
It's the sovereign remedy for all Galls, Scratches, Wire Cuts, Grease Heel, etc. in horses. Torn or Cracked Teats, etc. in cows. Sold by local dealers everywhere, who are directed to refund money if it fails. Enclose us 10 cents for testing sample.
BICKMORE GALL CURE COMPANY, Box 518, Old Town, Me.



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You can add value to any cow with a
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because it will save over 80 per cent. of the loss resulting from the old method of setting. It will separate warm or cold milk, light or heavy cream, and skim clean. We send the National and let it prove its worth right in your own home dairy.
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Costs nothing if you don't buy—costs nothing if you do, for it pays its cost in what it saves. Send for catalogue.
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THE SHARPLES SEPARATOR,
with Tubular bowl, is guaranteed to yield the farmer a 6% greater profit on his investment than any other separator will yield.
It gets more and better cream.
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It takes less time and labor.
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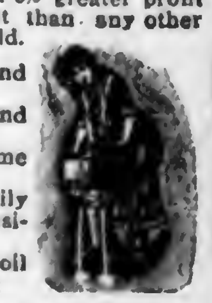

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U. S. CREAM SEPARATOR
The U. S. Gets More Cream than others, which means more money to the user;
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Live Stock and Dairy.

If stock breeders who have live stock to sell will use the columns of the P. F. they will be surprised at the results. A 4-line stock advertisement inserted one year will cost $37.44, only $9.36 per quarter, and will keep your business in a healthy and profitable condition

The Value of Quality.

PROF. A. M. SOULE.

Probably more of the failures in feeding beef cattle may be traced to the type of animals employed than to any other factor. One must become a student of animal quality and characteristics to fully appreciate the influence the animal has on the profits from feeding. The difference between good and bad types when brought to the final test of a beef animal—the block, is so great that anyone who has not made a study of the subject could hardly believe such differences could exist in animals of the same race. An illustration based on actual observation may serve to make the matter clear: Two animals presented for slaughter made approximately the following record: The poor one dressed 40 per cent. of the live weight; in other words, 60 per cent. of its gross weight was offal or waste products. On weighing up the fore and hind quarters when cut as ordinarily done by the butcher, the fore quarter was found to weigh the most. On examining a section through the loin from which the tee bone or porterhouse steak is cut, it was observed that there was comparatively little meat in this region. The tenderloin was very small and the sirloin very thin. The color of the meat was a dark blue and it had a coarse fibrous appearance. The round was also small and restricted. The meat from this animal when cooked; and the writer speaks from experience, was of a dark color, stringy in texture, and of exceedingly poor flavor. Nor is it composed of those rich, nourishing qualities one would expect to find in a good steak. Do not imagine the picture is overdrawn, for there are many abattoirs where such animals are being slaughtered today and it will not be a difficult matter for anyone doubting the statement to find a practical illustration.

The good steer, when slaughtered, dressed out 60 per cent. of his live weight. In other words, there was 20 per cent. less offal in connection with the slaughtering of this animal than his companion. When the carcass was divided it was found that the hind quarter outweighed the fore quarter considerably. This was as it should be, for the hind quarter, the loin, the rump and round produce not only the best quality of meat, but the meat that brings the highest price. In other words, should the fore quarter bring 5 to 6 cents, the hind quarter would bring from 8 to 10 cents at wholesale. In this case the retail butcher would obtain from $10 to $15 more for the meat of the hind quarter, whereas, in the case of the poor steer the fore quarter would bring in quite as much as the hind quarter. It is quite evident that the poor animal is thus not so profitable to the butcher as the good animal, while infinitely less profitable to the owner. On examining the hind quarter, or, for that matter, the whole carcass of the good steer, the meat will be found to be well marbled; that is, the fat and lean well intermixed. The development of the loin and sirloin, and, in fact, the whole hind quarter, is very much greater. The meat covers every part of the bone and swells out and spreads over it, as it were. It has a rich red color, an evidence of a healthy and well nourished animal. When cooked it has a fine, rich flavor and an enticing tenderness. It is the kind of meat to make red corpuscles, to leave a sweet taste in the mouth, and make a man happy all day long.

What a contrast the foregoing pictures present and yet it has not been overdrawn; that would be impossible. It calls to mind, however, two types of cattle raisers; the one a progressive and up-to-date man; the other a slovenly and indifferent creature. The one makes a nice profit from his business and speaks of it in the most encouraging manner. He looks upon it with pride; it is his profession and he delights to measure up his skill in moulding the form and quality of the animal to suit the market demands. His neighbor cares nothing for such matters. He has a large area of cheap land; he does not feed and care for his animals; he illtreats them; lets them rustle for themselves, and then fondly imagines that he grows his beef for practically nothing. He proclaims to all the world, a fact already well known, that there is no profit in the cattle business. Why will sensible men continue to follow such destructive methods in the production of beef? How can sensible men delude themselves into believing that a good beef animal can be made without the exercise of effort and skill and the utilization of plenty of good food? What is the reason they cannot see they are dissipating their own energies and losing an opportunity to make money and a comfortable home for their families through following such indifferent methods in the production of beef cattle. The results of this practice are so apparent that it would seem that all sensible men would forsake such methods at once. If they would the profits from the cattle industry would increase amazingly in the next few years and this profit would go directly into the hands of the producers. These ideas have been presented in the hope of getting the small farmer to think about the importance of giving better attention to his live stock. On nearly every farm there are a small number of animals that could be made into profitable beef animals each year. At present they are not worth much, nor do they bring much because of the neglect to which they are subjected. Not many people can really understand what stunting an animal means. The practice on many farms is to let the young calf run with the dam for a few days. It is then well nourished and cared for. Presently it is taken away and put on skimmilk, which is probably fed in a sour condition and no adjuncts are supplied to take the place of the fat which has been removed in the cream. The digestion of the animal is very similar to that of man. Imagine a young child being given sour milk for a steady diet. The result is not hard to determine. If the young calf survives the white scours, which it is very likely to have, it is generally a stunted, long-haired, wretched looking little creature. Should this dire experience happen to come in the spring, it may pick up some on grass, but one who has observed calves so treated, as compared with those receiving normal treatment is aware that it will always remain a stunted, scrubby animal. It never gets over the tremendous shock to its nervous system which this unreasonable and cruel change in food brought about. Stunting thus means a permanent injury to the development of the animal and it is a great pity that this truth could not be more generally recognized. Why should a man ever do that to his animals which will permanently injure them and thus militate against his own profits. Only one answer can ever be given to that question, and that is that he does not fully realize the extent of the injury. The stunting already referred to means to arrest temporarily at least, the performance of certain functions in the body, the nourishment, it may be, of certain sets of muscles. Suppose these muscles are those in the region of the loin, as they are very likely to be. Does this not account in part for the frequent lack of development discovered in this region? It is the firm belief of the writer that it does, and so the stunting of the young animal very often has a serious effect on its ultimate development.

It is well for the feeder to remember that a fault in the animal can never be entirely corrected. A lack of nourishment in the case of sheep is shown by a contraction of the spirals of the wool. The wool shows the effect of impaired circulation from whatever cause, indicating how sensitive the organization is and how quickly maltreatment shows its effects. Healthy and normal growth is what the stockman needs in order to be successful. It can easily be brought about by giving attention to the care and feeding of the animal throughout its whole life. It pays to treat animals well. It pays to feed them generously. They must be kept growing uniformly all the time. They should be fed so as to keep them growing each day; they will then make a vigorous development of all the parts of the body, reach an early maturity and produce a type of animal that kills well, produces a choice quality of meat which is distributed on the parts of the body where it is most valuable, and hence brings the farmer the largest cash price. Why should an animal sell for 2½ or 3 cents a pound when it can be made to sell for 6 or 7 cents? There is no reason in the world why both animals, if given the same treatment, should not show equal merit on the block and an equal profit to the owner.

Tennessee Experiment Station.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Abortion.—I have a milch cow that gave birth to a premature calf. Her feed during the winter has been alfalfa (a first-class article), wheat bran and about half a 10-pound pail of small potatoes; also a measure of seed meal. These measures hold about a heaping tablespoonful. This animal has been stabled at night and during stormy days; has had plenty exercise. Will potatoes, seed meal or pine needles cause a cow to abort?
Hermosa, Col. O. L. SMALLWOOD.

It is absolutely impossible to say what caused this abortion, but it may be confidently stated that there is no evidence that either one of the things you mention was responsible. Potatoes, if spoiled or greened by the sun, might cause it. Pine needles we know nothing about, but it seems improbable that enough would be eaten to do harm. There are a hundred and one things that may cause abortion, and we are, of course, unable to decide what cause was here effective. It is plain, however, that you should isolate this cow from other pregnant cows and treat her with antiseptics, as we have so often advised for abortion. This is wise in that it may prevent contagion if that has been the cause. She should not be bred again until time arrives when she would have been bred had she not aborted.

Fibroid Tumor. — Please inform me what will remove a "sitfast" from my horse's back. It was caused by saddle and has been on his back for about one year.
Thompson's Sta., Tenn. N. D. MARTIN.

There is but one proper way of treating a sitfast and that is to dissect it cleanly out and then treat the wound until healed. A fibroid tumor has formed in this case and it should be cut out if it is so desired, as that is the only treatment that will remove it. Afterwards keep the wound clean and wet it often with a solution of one ounce of sugar of lead and six drachms of sulphate of zinc in a pint of water, which should be well shaken before use.

Lameness.—Have a horse which is lame in forelegs. The pastern joints seem enlarged at each side by bony growths and there are large windgalls on both sides of joint. Please give treatment.
Dows, Tenn. C. W. JORDAN.

The proper treatment for this condition would be to fire and blister. If this cannot be done, then clip hair from entire part involved and blister twice a month with cerate of cantharides rubbed in for 15 minutes. The method of firing to be followed in this case is "feather" firing. A line is drawn with red-hot feathering iron down back of leg from under knee to ankle; then on each side of this line other lines are drawn one inch apart in a slanting direction across side of leg, the lines thus made inclining from above downwards. We should say from description that the horse has osslets and windgalls.

Warts. — What is the matter with my yearling steer? He has what looks like warts under his belly, and his bag looks as if he had not been altered; there is a wart on his neck as large as a hickorynut.
Auburn Placer, Cal. W. R. GAYLORD.

Warts of this sort are very common on cattle, and indicate a peculiar abnormal condition of the skin. They are in no way contagious or infectious. Treatment consists in applying Fowler's solution of arsenic to the warts once or twice daily and giving this medicine internally night and morning in half-ounce dose until the warts disappear, when it may be gradually discontinued. There are many strong caustics which may be used, but where there are a great many warts the arsenic solution does especially good work. Large warts having a narrow neck should be cut off or ligated by means of a small rubber band or cord, but the arsenic may be used upon them after this has been done. Glacial acetic acid applied once daily is also effective.

Enteritis. — I had five shoats which I have kept continually for four months in a pen 15x8 feet. Have never allowed them out of the pen, but have cleaned it every day. When put in pen they were about two and a half or three months old. Have kept them growing well, by feeding raw potatoes, and bran and shorts in milk; for three weeks have fed no potatoes, but have fed some apples. A few days ago I gave them in the evening, about half the offal from a beef. They ate the lungs, the emptied paunch and a few of the entrails. The next evening one was dead and the morning following three more were dead; the remaining one seemed sick for a couple of days, but now seems all right. They bloated up immediately after death and turned purple about the mouth and under side of body, especially between the legs. Have fed offal before to shoats and never noticed any ill effect excepting that it sometimes caused diarrhœa.
Bandon, Ore. F. M. PERKINS.

It would seem that the eating of entrails, etc., killed these hogs, but you do not state what was the condition of the steer. One would suspect that the animal must have been diseased to cause this sickness among the swine. They died from acute inflammation of the bowels (enteritis) such as is caused by feeding brine, and we would suspect that there must have been some such irritant fed in this case or some disease in the animal whose entrails were used. On general principles we have found it bad policy to feed entrails to hogs. In addition to what has been said it should be remembered that the case described suggests cholera and that disease might be the cause of death rather than the entrails which were fed.

Broken Wind, etc.—1. Have a mare 7 years old, which when exerting herself breathes loud; does not breathe loud after she stops. 2. Have a mare 5 years old which has had one colt, but will not breed since. 3. Give remedy for splints. 4. Five-year-old mare when worked gets the thumps. Please give remedy. C. H. SMOTHERS.
Foosland, Ill.

1. This mare may be a mechanical roarer. That is, she may have a thick throat latch and when worked gets her head down so that she shuts off her wind, as horsemen say, and causes a roaring sound. Such animals are usually very nervous and too anxious to get ahead. Work her with an overhead check so she cannot get her head down between her forelegs or even curve her neck. Also be careful to work her after she has had time to digest her food, and do not feed her any hay during the daytime. Feed a little hay very early in the morning and again late at night. 2. If mare has not a discharge from vagina and comes in heat regularly she may be successfully bred by artificial means, as advised in a recent number of the P. F., where instructions were given as to use of one-ounce gelatine capsule for this purpose. Read instructions referred to. If you cannot find the article write again and we will give them over again. 3. Blister with biniodide of mercury, one and a half drachms; lard, one ounce; mix. Rub the blister in for 15 minutes. Do not wash blister off; in three days commence applying lard once daily. Repeat in two to three weeks if necessary, and if skin is not too sore. In bad cases the firing iron should also be used. 4. Turn her out on good pasture for six months. There is little that can be done in such cases other than rest with succulent food, such as grass, far indigestion is often the cause.

Profuse Sweating. — Can you tell me something to do for a mare that sweats profusely when driven or worked a little? Have been feeding dry corn fodder, timothy hay and ear corn for grain. She has not shed her hair for quite a while. What can I give or feed her to make her shed her coat and prevent that profuse sweating?
Fairview, Pa. LEVI R. MARKWOOD.

When a horse sweats profusely at this time of the year when worked even lightly, or on standing in the stable after work, it is evident that he is in a soft, flabby condition and doubtless suffering from indigestion. In our experience it is the feeding of corn and other heating grains during idleness and especially in hot, badly ventilated stables that induces this weakened condition. The first step should be to have the mare clipped. This will always do away with most of the sweating, and often cures the indigestion without the use of medicine of any sort. Also see to it that the stable is cleaned out and whitewashed and that the ventilation is made first-class. Stop feeding corn and fodder and substitute oats and prairie hay. Oats go to make muscle and give vim and vigor for hard work in spring, while corn merely goes to form fat and produce heat and is not indicated in the spring and summer feeding of work horses. You would also find the addition of a little dried blood meal to the oats ration helpful in building up the strength of the horse and preventing the sweating which indicates weakness. We have often seen the condition due to contamination of the drinking water with leachings of the manure pile, and too much lime in the water will also set up indigestion and cause the same symptoms, so that the water supply should be looked to and soft water substituted for hard water, if that is what you have been giving. New Orleans molasses is also a capital food in conditions such as those shown by your mare, but it attracts flies. It is used mixed with a like amount of water and is then incorporated with cut hay, bran and corn meal or crushed oats. We do not think medicine will be needed in this case, but should you fail to cure her from above feeding and management, give her the medicines so often prescribed in this department of the P. F. for chronic indigestion.

Corns.—Have a mare 12 years old. She gets so lame in front feet she can hardly walk. When trimming her feet to shoe, find bloodshot places inside of rim of hoof and the walls of feet are loose. What is the cause, and can they be cured?
Thayer, Mo. PHILEMON FRISBIE.

As a rule, when bloodshot spots are found on the sole of a horse's foot they constitute either corns or stone bruise, but as in this case the animal can scarcely walk, it would seem that founder has been the cause of the disease and condition of the soles of the feet. Better have the soles pared down a bit, then stand the feet in hot water for hours at a time for four days, and each time feet are removed from soaking tub put on flaxseed meal poultices. In a week clip hair from coronets of both forefeet and blister well with cerate of cantharides, repeating the blistering in two or three weeks. A week after each blistering turn horse out on soft, low-lying grass field. The horse should not be worked before his feet are grown down sound and strong. This may require all summer, but there is little use in attempting to patch him up for temporary work. If you find that there is a convex condition of the sole at point of frog and much pain is evinced when that part is struck lightly with a hammer the horse has been incurably foundered and has dropped sole. Such animals may be treated as above and eventually worked when shod with wide-webbed bar shoes over oakum and tar packing and leather sole.

Fungoid Growth.—I have a mule that four or five months ago hurt its foot just above hoof on front side of hind leg. Owner says he pricked it on a cane. The mule was not cared for at all. It is now twice as large as it should be; the flesh has grown out over hoof; it looks like a wart. How should I treat it? S. B. FERGUSON.
Rome, Miss.

We do not think it would be safe for you to attempt an operation on this foot, as it is easy to cut out the growth but difficult to heal the wound and secure a normal growth of horn after the operation has been performed. Tie mule so he cannot bite part. Cleanse wound well with soap and hot water and, when dry, wet it with a solution of one ounce of chloride of zinc and two ounces of sulphate of zinc in a pint of water. This medicine can be procured from any druggist. Repeat the application of this solution three or four times daily until the growth is cut down greatly, then stop use of lotion and use instead an ointment made by mixing together one drachm of iodoform and two drachms of tannic acid in an ounce of lard. After this has been done, if wound is not healed write again and remind us of treatment here prescribed. We will then be glad to advise you further.

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CREAM SEPARATORS
ARE SO MUCH BETTER THAN
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BECAUSE.—They are constructed under many all-important patents, which cannot be used by any other manufacturer and which enable De Laval machines to skim cleaner and produce a more even and more thoroughly churnable cream than is otherwise possible, at much less speed and wear, and with much greater ease of operation.

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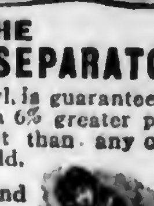

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THE LAWRENCE-WILLIAMS CO., Cleveland O.

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Costs Nothing If It Fails.

Any honest person who suffers from Rheumatism is welcome to this offer.

I am a specialist in Rheumatism, and have treated more cases than any other physician, I think. For 16 years I made 2,000 experiments with different drugs, testing all known remedies while searching the world for something better. Nine years ago I found a costly chemical in Germany which, with my previous discoveries, gives me a certain cure.

I don't mean that it can turn bony joints into flesh again; but it can cure the disease at any stage, completely and forever. I have done it fully 100,000 times.

I know this so well that I will furnish my remedy on trial. Simply write me a postal for my book on Rheumatism, and I will mail you an order on your druggist for six bottles Dr. Shoop's Rheumatic Cure. Take it for a month at my risk. If it succeeds, the cost is only $5.50. If it fails, I will pay the druggist myself—and your mere word shall decide it.

I mean that exactly. If you say the results are not what I claim, I don't expect a penny from you.

I have no samples. Any mere sample that can affect chronic Rheumatism must be drugged to the verge of danger. I use no such drugs, and it is folly to take them. You must get the disease out of the blood.

My remedy does that even in the most difficult, obstinate cases. It has cured the oldest cases that I ever met. And in all my experience—in all my 2,000 tests—I never found another remedy that would cure one chronic case in ten.

Write me and I will send you the order. Try my remedy for a month, as it can't harm you anyway. If it fails it is free.

Address Dr Shoop, Box 577, Racine, Wis.

Mild cases, not chronic, are often cured by one or two bottles. At all druggists.

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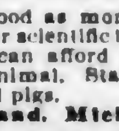

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These and other points of superiority described in our catalogues make
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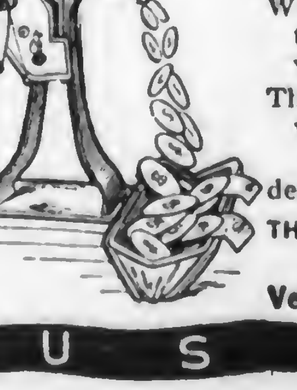
Vermont Farm Machine Co., Bellows Falls, Vt.
279



THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

Our Most Popular
PROPOSITION
$1.25
Pays for The Practical Farmer for ONE YEAR and a Due Bill good for SEEDS, PLANTS or BULBS to the amount of ONE DOLLAR selected from the catalogue of a leading seedsman. Making $2.00 good value (*especially at this season of the year*), for only $1.25.
THE FARMER CO.,
P. O. Box 1317, Philadelphia.

Current Comments.

Sowing Onion Seed for Sets.—A new subscriber, Barto, Pa., wants to know when and how to sow onion seed to raise sets for next year's planting; also what fertilizers are required. To raise onion sets, the first requirement is the right kind of soil, which should be a fairly fertile, clean loam, that is quite sandy. Sow seed in early spring in the thoroughly prepared soil, rows to be about a foot apart, and seed to be used at the rate of 40 or 50 pounds per acre with a garden drill. Yellow Strasburg is the variety usually planted for yellow sets, White Portugal for white sets, and Early Round Red for red ones. I think much of the Prizetaker sets, which make extremely sweet green onions of good size, and in our experience, can be kept over winter (for spring planting) just as easily as any other ordinary onion set. For onion sets, if the ground is fairly fertile, we do not use a great deal of manure or fertilizer. What we want is to keep the bulbs down to marble size or less, but have them solid. Much rank manure would tend to make them large and somewhat soft. For such soil I would recommend a dressing of several hundred pounds (up to 500 or 600) of acid phosphate (S. C. rock, dissolved) and half as much muriate of potash.

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Notes from a Carolina Garden.

If people generally knew what a gorgeous summer bloomer the Amaryllis Johnsonii is they would be much more largely grown. Of course, the usual retail price of the bulbs is prohibitive to many, for few can afford a bed at 50 cents each. But if well cared for the bulbs will increase quite satisfactorily. Some years ago one of the large dealers sent me 90 bulbs with the statement that I could have the increase if I returned an equal number of bulbs in the fall. I returned them and have since sold between one and two hundred, and now have over one hundred bulbs planted and throwing up flower stems. The florists usually force them into bloom in winter and then keep the bulbs barely alive during the summer for another winter. The Amaryllis Johnsonii being naturally an evergreen bulb, does not like to be entirely dried off. But those without a greenhouse need not despair of having a fine summer bloom. The bulbs would endure our winters here with a good cover of leaves, but I find no advantage in leaving them out. Some years ago I practiced lifting them and blooming them in the greenhouse, and then bedding them out, and they gave some flowers all summer. But now I force few in the greenhouse. I lift the bulbs when there is danger of hard frost, taking care to get all the roots alive. The bulbs are then placed in a cellar with the roots packed in nearly dry moss on the cellar floor. They thus keep a little green shoot all winter and the roots remain alive. In the spring, after the frames are empty of the winter crops of lettuce and other things, I plant them in the rich soil, and the way they soon push up their clusters of big red lilies is pleasing to behold. The first bloom on my bulbs this spring will be fully 100 of the great red and white striped lilies as large as the white Bermuda lily so much sought after, and the bed will soon be a show worth going a good ways to see. Grown in this way, in very rich and mellow soil, the bulbs attain a remarkable size, few of the mature bulbs being smaller than 13 inches in circumference. One hundred of them which I sold to a seedsman, filled a flour barrel. Starting with a large bulb anyone can soon have a lot that will make a show and can also continue the show by potting some of the bulbs for the house in the fall.

Two years ago I bought 100 bulbs of Groff's New Hybrid gladioli. I have now nearly 2,000, large and small, and the young bulblets are showing like wheat along the rows, and will nearly all make blooming corms by fall. Then, too, we have other summer bulbs that have increased to a wonderful extent. Sternbergia Lutea, the pretty and hardy fall blooming amaryllis that in September looks like big yellow crocuses, are perfectly hardy, but must be planted in July or early August, since the flowers appear in September before the foliage, which remains green all winter. Another bulb to be planted at the same time in the South, or potted for the house in the North, is the Nerine Sarniense, commonly called Guernsey lily. Its panicles of bright red flowers appear before the leaves and these, too, remain green here all winter. How far North it will be hardy I cannot say.

Just as I wrote the above my man of all work poked his head in the door and said: "The grocery man's wagon is here and wants 25 bunches of onions." So I stopped writing about the flowering bulbs to help get the odorous "Queens." And this reminds me to say that the Queen onion is the model onion for growing from fall planted sets for early green onions. Their silvery whiteness and remarkably mild flavor make them favorites wherever tried. I am now about sowing the seed for the sets. I sow them very thickly, actually almost filling the little furrows with seed, and they grow in heaps and piles and make the finest of little sets.

April 16.—The Premium Gem peas which were sown in January are coming in along with the extra earlies sown in February. I have often heard people here say that there was no advantage in sowing peas in January, as the February ones would be just as early. But if these Premium Gems had been planted in February when the extra earlies were planted, they would not be more than beginning to bloom now. The Gems and the Nonpareil will come in about together, as the pods are now about the same size but neither of them filled. Maule's Earliest of All are in about the same condition. Shropshire Hero peas planted at same time as the extra earlies, are not yet in bloom, and will make a good succession. Today we planted some of the new dwarf pea, the Harbinger, and hope that they may beat American Wonder, which has never amounted to much for me. The early beets are nearly ready for the table, and it is too soon to say which variety is earliest and best for I have a number of sorts new and old.

Dwarf lima beans and snap beans are up, but the cool nights are making them look very pale. The main crop of limas are yet to be planted if it ever stops raining. The care that the seedsmen use in rogueing their seed peas is very gratifying to one who likes things true. My peas are supported on chicken wire netting, and looking down the rows one can hardly see a difference in any of the plants, all being exactly the same height. To one who knows how apt these plants are to break away and run up out of the type, it is a pleasing evidence of the seedsmen's care to note this uniformity of type. There are peas on the market which are all sorts of heights and early and late in same lot, but the leading seedsmen do not risk their reputation on this kind of seed.

In sowing radishes my man by mistake sowed some of the White Japan Colossal. These are intended for a fall and winter radish, and I had some curiosity to see how they would do from spring sowing. Well, the leaves are colossal. The roots of these yard-long leaves are about the size of a lead pencil and about as long, and the plants are now running to seed. We will try them again in the fall before deciding that they are not worth growing. Under different conditions they may improve. We have had such great success with winter radishes that we hope another fall to try all the varieties attainable. Heretofore the Chinese Rose Colored has been our stand-by, and will continue to be the main crop until we find a better. I hope to test all the different dwarf lima beans this season, but it will be hard to find one better than Wood's bush lima, which we tried last summer. We also have our usual series of tomatoes, old and new, and have just set the first plants. One variety we had enough of. This is Honor Bright. The catalogues say that it passes through a variety of colors and finally is a bright red. My plants were golden yellow all over, foliage and all. The tomatoes were abundant and smooth and of fine size. They first turned white and finally yellow, but still hard and unripe until finally just before frost they did take on a little red, but never seemed to ripen perfectly. There was less rot in the fruit than in any other, but we want tomatoes to eat and not to look at, and Honor Bright is too bright for me, and I will let other people grow it. If there is any better tomato than Success I have never yet found it. It seems to me to be as near perfection as the tomato can be brought, and I will devote most of my space to it. Matchless is later and a little larger, but I prefer the Success to any. Maule's Earliest is the earliest and most productive tomato I have grown. When we can get it a little smoother it will be a great tomato, if the smoothing process does not make it later. Strawberries are about to make their appearance on the table, and after a while I will have something to say about the varieties. In the flower garden the roses now have the floor and throw everything else in the shade. The yellow Banksia hangs over many a porch in a fringe of gold, and the white Banksia is coming into bloom with its violet-scented flowers. I have about 75 varieties of roses, mainly teas, and will have some notes about these, too, ere long.

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A Good Proposition.—We call the attentionof our readers to the advertisement of W. M. Ostrander on the last page of this number. He offers to investors one of the choicest and safest investments in the market. Philadelphia has long been noted as the centre of the carpet manufacturing industry and many fortunes have been made therein. Prominent among these establishments is the factory of the James Dunlap Carpet Co., now doing an annual business of over $1,200,000. For the purpose of enlarging the plant and increasing its productive capacity a limited number of shares are offered to the public by Mr. Ostrander. We know Mr. Dunlap and are acquainted with the financial standing and business methods of the company, and believe this is an exceptional opportunity to become interested in one of the best and most conservatively managed industrial enterprises in Philadelphia. The advertisement gives the details of the offer and the reasons for throwing it open to the general public. We invite a careful reading of the ad. and regard the stock in the company as "gilt edged."

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Society of Christian Endeavor, Denver, 1903.

The Passenger Department of the Chicago & North-Western Railway has issued a very interesting folder on the subject of the Christian Endeavor meeting to be held at Denver, July 9th to 13th, together with information as to reduced rates and sleeping car service, as well as a short description of the various points of interest in Colorado usually visited by tourists. Send 2-cent stamp to W. B. Kniskern, Passenger Traffic Manager, Chicago, for copy.

PARIS GREEN, Star Brand
Warranted Strictly Pure.
In 250 lb. Kegs.......... 13½ cts. per lb.
In 100 to 175 lb. Kegs.... 14 cts. " "
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ARSENATE OF LEAD PULP, Star Brand
For Spraying Fruit Trees
In 100 lb. Kegs.......... 10½ cts. per lb.
In 50 lb. Kegs........... 11½ cts. " "
LADIES CREAM CHINA SILK WAISTS AT $2.99.
An excellent garment for the hot summer days, has valenciennes lace insertion down the front, hemstitched tucks on each side and also in back. Fancy collar and cuffs. Order No. F P 254.
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COFFEE, green, very high grade quality, "Sultana Brand,"........ 7 cts. per lb.
COFFEE, roasted, "Vienna Brand," our own blend.......Price per lb. 16 cts.
TEA, very choice mixture, our brand, "CUHIO CHOP," Formosa Oolong, English Breakfast, Japan, Young Hyson, Mixed and Ceylon.......... Price per lb. 34 cts. Price per 5 lb. box $1.59
"RED STAR" LAUNDRY SOAP. 30 one lb. cakes, per box, $1.64, 60 one lb. cakes, per box, $2.94
Write us for prices on any article you may require. We supply every want, being equipped to fill all orders promptly. Send us your name and address and we will mail you FREE our 96 page booklet, "GOLDEN OPPORTUNITIES FOR MONEY SAVERS," which contains illustrations, descriptions and quotations on articles needed in every household. WRITE TO DAY.
R. H. MACY & CO., NEW YORK.
Established 1858. The World's Original and Largest Department Store.

NITRATE OF SODA FOR BERRIES.
Send your name on post card for our Free Bulletin.
WILLIAM S. MYERS, DIRECTOR, 12 John St., New York City.

Write to The Fairbanks Co., New York City, New York, and get their book which fully illustrates their fine Gasoline Engine.

THRESHERS and Threshing Engines, Saw Mills, Machinery and full line of Ag. Implements. Free catalogue. A. B. Farquhar Co., L't'd., York, Pa.

London Purple
To obtain **sound, handsome fruit** spray with LONDON PURPLE (trade-mark), which has been the popular, safe and
EFFECTIVE INSECTICIDE
for use against **Potato Bugs, Cotton Worms, Canker Worms, Codling Moth, Curculio, etc.,** for more than a
Quarter of a Century
Thousands of tons have been used, ensuring in manufacture a perfection only attained by vast experience. LONDON PURPLE is exactly suited for farmers and fruit growers' uses. Write for circular. Manufactured solely by
Hemingway's London Purple Co., Ltd.,
133 Front Street, New York.
Works: Marsh Gate Lane, Stratford, London, Eng.

SAN JOSE SCALE and other insects controlled with *Caustic Potash Whale-Oil Soap No. 3.* Send for circulars. James Good, 939 N. Front St., Phila., Pa.

IRON AGE Book Free describing one and two horse cultivators, Potato Planters, Wheel Hoes, Seed Drills, etc. Bateman Mfg. Co., Box 101, Grenloch, N. J.

Planet Jr. catalogue is free for the asking and tells all about the best line of seed drills, wheel hoes and 1 and 2-horse cultivators on market. Send for it. S. L. Allen & Co., Box T711, Philadelphia.

Acme Harrows Indestructible. Cheapest because the best. Send for cat. DUANE H. NASH, Sole Mfr., Millington, New Jersey, and Chicago.

D. & C. Roses Best roses grown. New guide to rose culture free. DINGEE & CONARD, West Grove, Pa.

IMPROVED KEMP MANURE SPREADER
Spreads manure better than it can possibly be done by hand.
KEMP & BURPEE MFG. CO., Box 38, Syracuse, N. Y.

APPLE TREES That will grow. Varieties and stock all of the best. Catalog Free. Harrison Nurseries, Box 30, Berlin, Md.

STARK TREES best by Test—78 Years LARGEST Nursery. FRUIT BOOK free. We PAY CASH Weekly WANT MORE SALESMEN STARK BROS, Louisiana, Mo.; Dansville, N. Y.; Etc

Bliss' Red Triumph Potato
Just received from Aroostook county, Maine. Fine, clean, plump, true stock. $3.25 per barrel; 5 barrels, $15.00.
WM. HENRY MAULE, Seedsman, Philadelphia.

The Pump that Pumps SPRAY PUMPS MYERS Glass Valve
Double-acting Lift, Power, Tank and Spray PUMPS Store Ladders, etc. Barn Door Hangers. HAY TOOLS of all kinds. Write for Cir's and Prices. F. E. MYERS & BRO., Ashland, O.

PUMP, THEN SPRAY.
One at a time. 10 seconds pumping charges with enough air to run
The Auto-Spray
10 minutes and cover ¼ acre. Perfectly Automatic, operator merely walks and directs nozzle. Spray from fine mist to solid stream. Any boy can work it. Brass working and contact parts make it perfect working and durable. For poultry houses, vines, trees, etc. Catalog A, free. Shows the best line of all size, all purpose sprayers made. Write for agency.
E. C. BROWN & COMPANY, Rochester, N. Y.

SPRAY
Among sprayers there are but three that clean the strainer and stir the mixture. Their names are Empire King, Garfield and Orchard Monarch.
Their automatic agitators and cleaning brushes make it certain that plants and foliage get their due proportion—never too much nor too little—of the mixture. They never clog and the foliage is never harmed. These safe-guards with their perfect workings make them the best sprayers to be found. Instruction book on spraying, formulas, etc., free for the asking.
FIELD FORCE PUMP CO., 6 11th St., Elmira, N.Y.

Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Blood Leaved Trees and Shrubs.

Since the introduction of the Japanese maples, all of which have beautiful foliage, a great deal of attention has been given to this class of trees and shrubs. Of all the Japanese ones mentioned, the blood leaved is the best, as in addition to its blood red leaves in spring and early summer it has finely divided leaves, by many thought a great attraction. As the heat of summer increases, the deep red color lessens, being less brilliant, but from first to last of the season there is always a great attraction. The purple plum behaves in a different way. It starts out almost green, its red color deepening with the season, being, at the close of the year, the deepest colored shrub of all. It is very useful, and being easily propagated, is the cheapest of all this class of shrubs. When it comes to trees, nothing excels the blood leaved beech. There is the blood leaved birch, the blood leaved Norway maple and a blood leaved oak—all very good, but not one making the grand display made by the beech. When young this tree is not nearly as beautiful as it is when it has reached full growth.

Freshly Planted Trees.

Anyone familiar with the large plantings of today must have recognized the fact that a much better knowledge of what treatment transplanted trees require exists than what was apparent before. Many orchards of fruits, as well as plantations of other trees, are set out under the supervision of trained men who know what trees require. In many States forestry is receiving much attention; seeds are being sown and seedlings set out, all of which call for intelligent supervision. There is much to learn in the preserving and sowing of seeds which even tree planting experts may not know. The manner of preservation through the winter has all to do with the proper condition tree seeds should be in. With the increased knowledge of tree planting which the interest in forestry matters will surely develop, there will be less loss of trees than heretofore. The farmer who has been accustomed to set his fruit trees without much thought or care will see to it that they are properly pruned, root and branch, properly planted by having the soil firmly pressed to the roots, and that good food is prepared for them. Hardly a fruit tree but would be the better for pruning. The peach is helped by being cut back almost to the main stem; the pear, apple and cherry are better with branches shortened, keeping in mind while doing it the forming of a symmetrical tree. Removing a tree always checks it, and a pruning counterbalances this. Branches too close together should come out entirely. If after a time following planting the trees seem backward in pushing into growth, see if the soil has been pounded in tight around them, and whether they are suffering from drought. And perhaps still a little more pruning can be done. Freshly planted blackberries and raspberries should have their canes cut well back, leaving but a third of their original length. If this has not been done, do it soon unless the canes are breaking buds nicely, which it is not probably will be the case.

English Walnuts.

A subscriber, Mr. Peggs, writing from Geauga Co., Ohio, is much interested in English walnuts, and thinks an acre of them would be a good investment for anyone to make. Whether they would thrive in that part of Ohio, I cannot say. As I have said several times, the tree is quite at home in the vicinity of Philadelphia, grows to a great size, and bears good crops of fruit. This may be about as far North as the tree could be grown profitably, as I have observed here that seedlings raised from imported nuts are a little injured the first year or two of their lives, though injury does not occur after they make a little hard wood. In the case of Spanish chestnuts and other trees it has been found that seedlings raised from seed produced on our own trees are hardier than those from imported seeds; and no doubt English walnuts from home grown seed would give a race of hardier trees than common. Those who thought to set out trees with the idea of marketing the nuts would have to remember how close Europe and California are to us now, and that large importations from those places are reaching us all the time. The past winter our commission houses held these nuts at $10 per 100 pounds. Probably south of this there is room for profitable planting of this tree; and in Mr. Pegg's garden, as well as in many other persons' a few trees of it should be planted to test the adaptability of this desirable nut tree.

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Horticultural Notes.

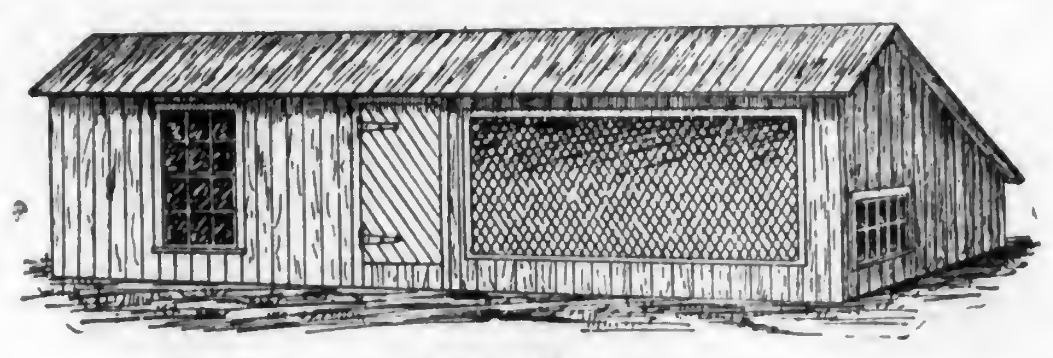
Painting Trees. — A correspondent writes that not only did painting his fruit trees with common paint keep rabbits from barking them, but he is confident that the painted trees grew better than those not painted. Some years ago the U. S. Dept. of Agriculture recorded that pear trees sprayed with Bordeaux mixture grew better than those not so treated.

POULTRY.

This department is under the editorial charge of A. F. Hunter. All letters, inquiries and requests should be addressed to him at the Practical Farmer office, P. O. Box 1317, Philadelphia.

A Good Practical Poultry House.

E. G. S., Monroeville, N. Y., writes: "Is a hen house built two or three feet below the ground level healthy for chickens provided it has plenty of windows in the south side so the sun can shine in it? If not, please give plan for a good, warm hen house." No, a poultry house a third or half under ground would be certain to be unhealthy, because it would be damp in spite of all you could do, and a damp poultry house is a mean place in which to keep poultry. Build your house at least a foot above the ground level, fill in inside up to bottom of sills (at least a foot) and slope the ground from the bottom of sills away for a couple of feet, so as to turn the water away from the house. We give a plan for a practical poultry house, which is reprinted from the Poultry Special of March 16, 1901. The house is about 10x12 feet, 7 feet highest point, 6 feet to eaves in front and 5 feet in rear, with a scratching shed about 15 feet square either east or west side, according to preference or circumstances. Shed extends 5 feet beyond rear of roosting part, and eaves in rear are only about 3 feet from ground. The most satisfactory low cost, rather flat roof I have found so far is made of seasoned pine flooring, laid very close, and after filling any cracks with clay dust by sweeping, is painted thoroughly so as not to leak. It is easily made water-tight. Painting in subsequent years should be done during dry, hot weather. Roof should be white, especially if sloping toward the sun, making house cooler during hot, sunny days than when black, which color absorbs heat. A curtain made of 48-inch sheeting on a frame, is hinged at top of opening in front of shed, so as to swing in and up out of the way. Low windows in east and west sides of shed and houses are much appreciated by the fowls when the sun shines. Such a house will comfortably care for fifty fowls. An improvement would be to make it a shed-roof, and the front seven feet high; it would cost less to build and would be better because there would be no drip down the front, where the birds are likely to congregate.



A "Colony" Scratching-Shed Poultry House.

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Poultry Queries.

Hens Don't Lay.—C. M. Ashton, Hightstown, N. J., writes: "Last fall I bought six thoroughbred Barred Plymouth Rocks and a cock. They were hens (not pullets) and two laid all through the winter; the other four never an egg. The two layers stopped two or three weeks ago but did not want to sit; one of the others lays now about every third or fourth day. Their combs do not look very red, but they eat well." It is difficult diagnosing the case, but we mistrust you bought old, old hens, and such are not expected to lay in winter. Perhaps you have not made them exercise enough to keep them in good health; you should compel them to scratch for all their grain food. Perhaps they are swarming with lice and hence cannot take time to lay eggs; it is frequently the case that in buying old hens one buys a choice assortment of lice, too. If your hens don't want to sit you will do well to buy a small incubator and some good eggs and hatch chickens that way.

Bread Crumbs for Chicks.—Hen Manure for Hotbed.—E. S. B., Torrington, Conn., writes: "I have kiln dried bread crumbs. After moistening them with sweet skimmilk what more is needed to make a complete food for young chicks? Would it be practicable to use part hen manure in making a hotbed?" Whether the bread crumbs and sweet skimmilk would be a complete food would depend very much upon what the bread was made of. If it is an all-flour bread you will see that it is mostly starch, consequently is a poor muscle and bone making food. Then, too, there is no meat food, no animal matter. See the directions for feeding chicks in March 21st P. F. Yes, it would be quite practicable to use hen manure in making a hotbed, would think a third of the material could be hen manure. But hen manure, if taken care of, is too valuable for hotbed material; it will pay you better to use on corn, or as top dressing for grass.

Lice and Mites. — J. F. Eagle, Statesville, N. C., writes: "We have suffered loss every year from lice and mites among our chickens. We have washed with lime and sulphur, used coal tar, sprayed with kerosene emulsion, washed the house with soap suds and brine, also sprayed the fowls with emulsion, and still they re-enforce and come again. There are red lice that hide in cracks and crevices during the day and come out when the hens are on the roost at night, get their meals and then go back to their hiding places. There is a gray louse that inhabits the fowls' bodies, especially about the vent, and deposit their eggs on the shafts of the feathers in clusters as large as a good sized grain of corn. They got so numerous last year that my wife dipped them all over in emulsion to get rid of them. The mites come in about August, and are very troublesome to sitting hens and little chicks; have a few little chicks now and there are lice on their heads and necks, while the weather is cold enough to freeze the chicks' feet!" And yet lice and mites are filth troubles, which can be conquered if strict cleanliness is observed. There is no doubt whatever that lice and mites on poultry, as well as lice, fleas, bed bugs, etc., in dwellings are altogether subject to control if we persistently and intelligently exercise the control. Thoroughly whitewashing and the right use of kerosene oil will down the mites. Scald the roost poles and nest boxes thoroughly with boiling hot water, and see that the scalding hot water penetrates all the cracks and crevices. Do the same with the cracks and crevices in the sides of the building where the roost poles rest. After the water has dried off pour on kerosene oil liberally and see that it penetrates all cracks and crevices. If it does—if you do this thoroughly—there will be no mites left there; if there are mites left you have not done thorough work because mites cannot live in scalding hot water or kerosene oil. Any good insect powder will clean out the lice if rightly applied and if thorough work is done. Unfortunately most people do only half-way work with it and there are a few lice "left for seed!" Thoroughly dusting the fowls will kill all the lice that are alive at the time, but cannot touch the nits (eggs). These hatch out in a few days and in a few days more (perhaps a week) they go to breeding and lay more nits. If you will dust the hens thoroughly every week for four weeks, that should get rid of the successive crops of lice; if there are lice there afterwards it is because the work wasn't done thoroughly, or there has been fresh contamination by infected birds. Now, friend, pardon our saying it, but your description of the "swarms of lice and mites" indicates great neglect of cleanliness and sanitary precautions. Any man who has lice and mites in his houses and flocks has them because he wants them. He can down them if he will do the work thoroughly, and if he wants the lice he don't try to down them!

Hood Farm Remedies
Keep Stock of All Kinds
Healthy and Productive.
Hood Farm Milk Fever Cure, $2.50.* Have it on hand. Saves the best cows.
Hood Farm Calf Scour Cure and Digestive Powder, $1 and $2.50 each. Promptly cure calf scours.
Hood Farm Breeding Powder, $1 (by mail $1.15) and $2.50.* Makes cows breed.
Hood Farm Abortion Cure, $1 and $2.50.* Prevents abortion.
Hood Farm Garget Cure, $1 and $2.50.* Cures garget.
Hood Farm Condition Powders, 25c., 50c. and $1.* Keep stock healthy.
Hood Farm Liniment, 25c., 50c., $1 and $2.* Best wash for race horses.
Hood Farm Tonic Drench, 50c. and $1.*
Hood Farm Colic Cure, $1.*
Hood Farm Hog Powders, 25c. and $1.*
*Prepaid to any railroad express point in U. S. 25c. additional. Mention this paper.
Address C. I. HOOD CO., Lowell, Mass.

Announcement
We have obtained the Court's decree against two additional manufacturers who have been infringing our patent. The rule of law is: "The maker, seller or user of an infringing device are all liable in damages to the owner of the patent infringed." The Janesville Machine Co. and the Keystone Farm Machine Co. are the only firms licensed to use a *flat tooth* covered by our patent, and we finally warn sellers and users of all other makes. So admirably have the 60,000 "Hallock" Weeders done the work for which they were designed, that one maker after another sought to copy it. However, by the various Courts' decisions, these makers are compelled to abandon the manufacture of a Weeder having flat teeth, and they are now experimenting with other shapes; but it is the flat tooth that made the "Hallock" Weeder famous, and in view of the manner in which our patent has been sustained, it is dangerous to use an infringing tooth. Write for descriptive circulars and prices.
HALLOCK WEEDER & CULTIVATOR CO., Box 803 York, Pa.

B B B MAKES HENS LAY. Send for sample and book, free. D. W. ROMAINE, 124 Warren St., New York.

BARRED ROCKS exclusively. Young stock and eggs from prize winners. Eggs, $1.00 and $2.00 per 15. Write for circular. J. W. COX, New Wilmington, Pa.

The automatic SURE HATCH better than ever; 30 days trial; Free Catalogue. Sure Hatch Incubator Co., Columbus, O. Clay Center, Neb.

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MAKE HENS LAY
Get a Mann's Model Bone Cutter
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The Practical Farmer.
FOUNDED IN 1855
Published Weekly by The Farmer Co.
P. O. Box 1317
S. E. Corner Market and 18th Streets
Philadelphia, Pa.
Entered at the Philadelphia post office as second-class matter.
PROF. W. F. MASSEY, Editor.

Philadelphia, May 9, 1903

In sending the postal card reports of the agricultural situation for our Postal Card Special of May 30th, please mention if hog cholera is prevalent in your neighborhood. The postal cards must be mailed not later than May 15th, and those from the far West and the Pacific Coast two or three days earlier.

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Progress in Alfalfa Culture.

In company with the Commissioner of Agriculture of North Carolina and the Director of the North Carolina Experiment Station, the Editor of the P. F. visited the fine farm of Col. J. S. Carr, near Hillsboro, N. C., for the purpose of seeing the alfalfa fields there. It would be a great object lesson to some who imagine that no good farming is done in the South to visit this farm and the nearby one belonging to Mr. Duke of the American Tobacco Company. High farming is being done on both of these places, and on Col. Carr's place about $100,000 have been expended in the most elaborate farm buildings to be found anywhere. The manager assured us that he had been shipping carload after carload of alfalfa hay West, North and South, and that all who use it unite in saying that it is the best hay they ever used for horses or cattle. This would seem to be a fair answer to the objections one of our friends in the West has recently made. The horses on Col. Carr's farm, which are fed on this hay, were in as fine order as horses need to be. The first crop of alfalfa was nearing the time of the first mowing. It is not a little pet lot, but wide fields of verdure that would do a stockman good to see, and those who imagine that alfalfa will not thrive East because of the rainy climate, should see this magnificent area getting ready for the mower. It is not a new thing either, for the fields have been in alfalfa for five or six years. The soil on which this alfalfa is growing is a heavy red Piedmont clay, like thousands of acres all over the Piedmont country east of the Blue Ridge from the Potomac to Central Georgia, and the success there had shows that over all the Southern red clay uplands this valuable crop may be grown. As we learn the conditions for success it is evident that alfalfa has come to stay and will be a leading forage crop in the East as it has so long been in the West. Not, of course, to the same extent that it has taken the West where the great diversity of forage crops that can be grown in the East are not possible, but as a great aid in the tiding over of the droughts that sometimes afflict us in the rainy sections. As the train bore us away from this farm we felt the victory has been won for alfalfa in the East.

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A Rich Nation.

The prosperity and wealth of the United States is well shown by the Treasury reports, which will now be turned over to the new Department of Commerce. For the first time in the history of the country we imported from abroad during the twelve months ending with March, 1903, over $1,000,000,000 worth of goods and at the same time we sent abroad nearly one and a half billion dollars' worth of products and manufactures. The exports for the year ending in March last exceeded the imports by $413,190,271. The great prosperity in manufacturing is shown by the fact that the increase in importations is chiefly in materials for the manufacturers. In the month of February last manufacturers' materials formed more than 50 per cent. of the total imports. And the farmers' crops are going abroad to pay for all these things, while the manufacturers get the lion's share in their sales. But for the farmers' crops where would the money come from. Take the cotton crop alone out, and how many of the wheels would stop. Let the wheat crop fail, and the millions at home and abroad in the factories would feel the effects. But with a prosperous agriculture, the nation forges ahead, for the farmer feeds all and supplies them with material. How great the need, then, of improvement in farming. With average crops in nearly all the States far below what good farmers make in all the States, there is an urgent need for a more intelligent use of the land, a better farming. The prosperity of the whole country depends on the prosperity of the farmer, and there is no grander work than that of aiding the farmer to increase his production per acre. The men who are in this fight for better farming, the men who are doing the work of agricultural journalism, deserve a more general recognition of the value of their work. They are not mere purveyors of news as the general press is, but they are the teachers of the farmer in this great educational work which we call agricultural newspapers.

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What About the Housework on the Farm?

The thoughtful farmer has doubtless prepared for the season's cropping. He has all the tools he needs and has them in shape for work. He has probably gotten some new machinery for the farm that will forward the work and make it more effective and profitable. The scarcity of farm hands over the Northern States and the high wages that are now paid for effective men make it essential that improved implements and machines should be employed as much as possible, so as to get the very best out of each man's labor. And this is what every progressive farmer will do.

But how about the house? Is your wife doing all her work single-handed? Is she the cook for a lot of farm hands, the laundry woman for the household, and even with some the gardener to raise vegetables for the crowd? Has she all the latest and best implements to make her work effective? With water at hand in the barn and barnyard for the stock, does your wife have to "tote" water in a bucket from spring or well? In short, are you trying to make the work in the house as easy of accomplishment and as effective as you are the work on the farm. If not, then are you doing what you promised when you got your wife and promised in the sight of God to do all that you could to make her life pleasant and happy? It is just as important that the housework should be easy, effective and pleasant for those who do it, as it is for the work on the farm to be treated in the same way. Think over these things, and when you note with pleasure the perfect equipment you have made for the season's work on the farm, see that an equally perfect equipment is provided for the work of the family inside the house. Find out every morning what vegetables are needed for the table, and get and clean them and have them at hand so that the busy wife does not have to trail her skirts in the dew to get them. See that she has water at hand, and if no running water is in the house have the supply brought, and then plan for running water as soon as possible. Have in the house every machine and implement needed to make the labor lighter and more effective just as you do at the barn.

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The Corn Crop.

Now that the corn planting season is here we would again call attention to what we have been saying during the winter about the breeding and improvement of the crop. Seed corn all over the North is said to be of inferior character this year, and it is very important to plant only the best. If you have determined to improve your seed, now is the time to begin. Plant a seed patch and on your best land, and give it special attention. See to it that no barren stalk in the patch is allowed to ripen a tassel and thus spread its worthlessness around it. All over the great corn belt of the Middle States earliness in ripening is of great importance. The Southern farmer need not bother so much about this feature, for he has time to ripen any sort, and need only concern himself about the stature and productiveness of the plant. The Southern corn grower needs to pay attention to getting a more dwarf stature in his corn, for in the South the tendency is to run up long-legged and with a short top above the ear. But the stature of the plant in the North is of less importance, for the tendency there is not to such long-leggedness. But either North or South the farmer needs to study the whole plant, and not to confine his attention solely to the single feature of the ear. We want good ears, well filled and plenty of them, but we want them grown on an ideal plant. We want plenty of foliage set closely together to mature a fine plant, and we want to breed for greater production of ears. Hence we have advised farmers everywhere to determine in mind what the model corn plant is for their purposes and to steadily breed towards that kind of a plant. Select seed from plants coming nearest your ideal plant and those having at least two good ears. If you want to note the influence of natural tendencies, save seed from these plants separating the upper ear from the lower and plant each separately another year in the seed patch. Plant the main crop, of course, from selected seed from the seed patch, but never fail to have a new seed patch every year to continue the improvement. By keeping the upper and lower ears separate you will be able to note the difference in the results year after year, and we are of the opinion that you will find that the seed from the lower ears tends more to the increase in the number of ears than that from the top ear. The top ear is almost always the finest looking ear and in a corn judging contest it will generally be the ear selected as the best. And right here is where the selection of the ear alone has wrought damage. You get the fine ear, but on a taller stalk and finally but a single ear. In all breeding of plants the whole plant must be taken into consideration if the best results are to be obtained, and not a single feature of plant. Selecting fine tubers only may result in getting those that had few in the hill and borne by an inferior plant. When digging potatoes note the character of the plant, the vigor and healthfulness of the top and the number of tubers borne, and you will often find that medium sized potatoes from very productive hills will give better results in the following crop than extra big ones that were the sole effort of inferior plants.

The Cream of the Bulletins.

The Pennsylvania State College Agricultural Experiment Station, State College, Pa. Bulletin No. 62. An Experiment in Ginseng Culture. By G. C. Butz.

The wonderful stories which have been going the rounds of the daily press and some of the farm papers in regard to the great profit of ginseng culture have had the effect of flooding us with queries in regard to the plant and its cultivation. As the Editor of the P. F. has never had any experience in the cultivation of ginseng, and lives where such experiments would be certain to fail, he has been anxious to get some reliable data in regard to the plant and its success in this country. Some parties in various sections of the country claim to be succeeding in the culture of ginseng, but we have always been disposed to receive their rosy accounts with some allowance, as growers are not apt to depreciate the merits of what they are trying to sell. We are therefore glad to know that one of the Experiment Stations has been making experiments with ginseng, and we are glad to be able to present a review of the bulletin giving the results of these experiments. In a former publication of the Pennsylvania Department of Agriculture it was stated that the investigation of the culture and subsequent correspondence with the ginseng growers revealed the fact that many difficulties were encountered and that the failures with the crop are more numerous than the successes. It was therefore for the purpose of determining by experience what difficulties may arise that the experiment detailed in this bulletin was begun in October, 1897. The general plan in starting the beds was to test the relative value, first, of the small roots collected in their native forests, secondly, the two-year-old seedlings from a dealer in cultivated plants; third, the seed which had been stratified for a year; and, fourth, fresh seed planted as soon as gathered from the native or cultivated plants. All these materials were procured. The native roots were small and no special selection was made of them. The annual scars on these roots numbered from three to fifteen, showing that some of the plants were 15 years old. The cultivated lot of roots were an excellent lot of plants, two-year seedlings from a successful grower in New York. They made a great contrast with the wild roots. The stratified seeds were the crop of 1896, preserved in moist, finely sifted woods earth. The fresh seeds were also stratified to prevent their drying. Ginseng seed will not germinate until it has been kept 18 months after maturing, and during this time must not be allowed to get dry. An important factor in success with ginseng is the soil. It must be a light, friable loam, full of leaf mould and well drained. The soil at the Station was not suited well to the work, being a heavy clay. But the experiment was made on the northeast side of the apple orchard, near enough to the trees to be partially shaded after midday. Two or three inches of woods earth were spread over the bed, and the roots were planted in October, and mulched with forest leaves in November. As the shade of the trees was not sufficient a lattice was made over the beds, of laths. The mulch applied in the fall was removed in the spring. Three times during the season the weeds were hoed out. When the seed was ripe it was harvested and stratified. The cultivated plants did well, but the native plants and the seedlings were very uneven. In five years the loss of the cultivated plants was 14 per cent., that of the native plants 48 per cent., and that of the seedlings 91 per cent. It will be seen then that the grower who furnished the cultivated plants had a serious loss to contend with. The cultivated plants produced over 11,000 seeds, the native ones 1,223, and the seedling plants 989. When the crop was sold at end of the five years the cultivated roots brought $43.03, at rate of $8.50 per pound, and the native roots $4.87, at rate of $6 per pound. The beds occupied 1-580 of an acre. It would require over 80,000 plants to set an acre, which would cost over $8,000, and other expenses will run up the cost per acre to $9,249. At the price the Station roots brought this would mean 2,900 pounds of dry roots worth $24,650, or a net profit in five years of $15,401, taking no account of cost of land, and we would add no account of the hundreds of thousands of seedlings lost in getting the 80,000 to plant an acre, or the attacks of nematodes and other insect enemies. Then, too, we must remember that in a very small plat of ground it is often easy to get results that cannot possibly be duplicated in the same proportion on a larger plat. With an outlay of over $9,000 to start with, and all the risks of five years culture taken into account the figures, while very large, are not enough to tempt us to go into ginseng. We have never known anyone to dispose of the product of a whole acre yet at the price small quantities bring.

Our Business Corner

THE FARMER CO.,
S. E. Cor. Market & 18th Sts., Philadelphia.
HENRY HARRIS, Business Manager.
Special Advertising Representative
S. E. Leith, New York.

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We cannot be responsible for money sent in letters **not registered**, or in any other way than by P. O. Money Order, Bank Draft or Check.

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$1 Seeds—$1 P. F. both for $1.25.

Just at this time garden seeds, bulbs and plants are in order. A dollar's worth of these will come in very handy for the good housewife, in preparing the way for needed garden vegetables and beautifying the home surroundings. One of our most popular combinations—if not the most popular—is our dollar seed due bill and the P. F. one year both for $1.25. We have sent out thousands of these due bills and they are always in demand. They can be used in payment for seeds, plants and bulbs, selected from the catalogue of one of the largest and most reliable seedsmen in the United States. If the order amounts to more than one dollar, the due bill is good for one dollar on the order. In accepting this offer you get a dollar's worth of seeds, plants or bulbs for only 25 cents, or, to put it another way, you get the P. F. for a whole year for only 25 cents. A big two dollars' worth for only $1.25. Any subscriber who wants to take advantage of this offer, but whose subscription for 1903 is already paid, can send the $1.25, get the seed due bill and have his subscription extended to the end of 1904. Thousands of housewives can get many dollars return for this small outlay. Our friends will help us by calling the attention of their neighbors who do not take the P. F. to this proposition. Many new subscribers may thus be obtained and we shall be under obligations to our friends to give this offer the widest possible circulation in their respective neighborhoods. In the next ten days or two weeks we ought to send out several thousand of these seed due bills, and a large percentage of them to new names. It is a combination which will brighten both the inside and outside of the home—good seeds and a good farm paper go well together.

COMMERCIAL

Philadelphia, May 2, 1902.

WHEAT.—

No. 2, red	80½	@	81
No. 2, Penna. and Del.	81½	@	82

CORN.—

No. 2, spot and April	50	@	50¼
No. 2, yellow, local trade	53½	@	54

OATS.—

Not graded white	39		
No. 2, white clipped	40½		

BUTTER.—

Receipts, 1,794 tubs, 2,178 boxes. There was considerable increase in the arrival from nearby points, and owing to the advancing season holders were anxious to keep supplies closely sold up. The market was consequently weak and prices further declined ½c. on solid-packed creamery and 1c. on prints. At revised quotations holders succeeded in cleaning up the supply of desirable grades of creamery, but offerings of prints were in excess of requirements, and some dealers were obliged to work off surplus stocks at concessions from quotations.

Western creamery, extra	23½		
Western creamery, firsts	23		
Western creamery, seconds	21	@	22
Ladle packed	14	@	17
Prints, nearby, extra	24	@	25
Prints, nearby, firsts	23		

CHEESE.—

Receipts, 616 boxes. Desirable goods were in fair demand and firm under light offerings. A few new goods are arriving, but they are generally of unattractive qualities, for which the demand is light.

N. Y., f. c., small—			
Fall made, fancy	14½	@	14¾
Good to prime	13¾	@	14¼
Fall made, fancy, large	14¼	@	14½
Good to prime	13½	@	14
State, part skims, prime	10	@	12

LIVE POULTRY.—

Fowls were quiet and steady, with ample offerings. Spring chickens were scarce and desirable stock firmer under good demand.

Fowls, hens, per lb.	14		
Roosters, per lb.	10	@	11
Spring chickens, per lb.	30	@	32

DRESSED POULTRY.—

Receipts of fresh-killed fowls were more liberal, and the market was a shade easier, but at revised quotations there was a fair demand for choice stock. Fresh-killed broiling chickens were scarce and firm. Frozen poultry was in fair request and steady with ample offerings.

Fresh killed fowls, choice	14		
Fresh killed fowls, average	13	@	13½
Frozen do do	12½	@	13½
Frozen broilers, nearby	28	@	30
Frozen roasters, nearby	16	@	17
Frozen broilers, Western	14	@	21
Frozen turkeys, young toms	18	@	19

EGGS.—

Receipts, 7,936 crates. Receipts were more liberal, and while there was a good demand for choice stock, offerings were somewhat in excess of the requirements of the trade and the tone of the market was rather easier. Sales of nearby stock in returnable crates were mostly at 16c., but in some cases holders shaded the price to 15¾c. In order to clean up supplies, Western, in free cases, ranged from 16 to 16½c. for good to choice marks.

Nearby fresh, at mark	15¾	@	16
do do free cases	16¼	@	16½
Western, choice, at mark	16	@	16½
Southern do do	15	@	15½
So. Western do do	16		

Recrated 1 to 2c. above wholesale prices.

APPLES.—

Northern Spy, per bbl.	2.00	@	3.00
Rox Russets, per bbl.	2.25	@	2.75
Golden Russets, per bbl.	2.00	@	2.25

VEGETABLES.—

There was a good demand for choice old potatoes, prices of which ruled firm under light offerings, but supplies were largely of poorly graded stock, which was dull at inside quotations. Old onions and cabbage were dull and weak under general pressure to clean up supplies. New vegetables were plentiful and sold fairly at quotations.

Asparagus, So., bunch	10	@	30
Beans, So., per ¼-bbl. bas.	2.25	@	2.75
Beets, Fla., per 100 bun.	2.00	@	4.00
Cabbage, Danish, per ton	6.00	@	8.00
Cabbage, common	2.00	@	3.00
Cabbage, So., bbl. crate	1.25	@	1.75
Cucumbers, Fla., per crate	2.00	@	2.75
Cucumbers, per bas.	2.25	@	3.25
Eggplant, Fla., per box	2.25	@	2.75
Lettuce, So., per ½-bbl. bas.	1.00	@	1.75
Kale, So., per bbl.	50	@	60
Onions, yellow, per bu.	40	@	50
Onions, Ohio Globe, per bbl.	1.25	@	1.75
Onions, N. Y. Gl. Danv., bbl.	1.00	@	1.50
Peas, So., per bu. bas.	1.00	@	1.50
Radishes, N. C., 100 bun.	50	@	75
Squash, So., per 1-3-bbl. bas.	75	@	1.25
Tomatoes, Florida, crate	2.00	@	3.00

POTATOES.—

White, Pa., per bu.	70	@	72
do New York, per bu.	68	@	70
do Western, per bu.	55	@	65
do Southern, prime, bbl.	4.50	@	4.75
do do Medium, bbl.	3.00	@	3.50
Sweets, Jersey, per basket	45	@	50

BEANS AND PEAS.—

The market for beans was quiet but firm, with moderate offerings. Green peas were steady, with supply and demand light.

Marrows, H. P., per bu.	2.60
Scotch peas, per bu.	1.70
Green peas, per bu.	1.65

HAY AND STRAW.—

Timothy, No. Pa., choice, l'g.	21.00	@	21.50
do Western	20.00	@	20.50
Timothy, mixed	15.00	@	17.50
Straw, straight rye	15.50	@	17.50
Wheat	10.50	@	12.00
Oat	8.50	@	10.00

FEED.—

Bran, bulk, winter, per ton	18.00	@	18.50
Bran, sacked, spring	17.50	@	18.00

COTTON.—

Cotton, per cwt.	10.75

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle steady.

Extra steers	5½	@	5¾
Good steers	5¼	@	5½
Medium steers	4¾	@	5
Common steers	4½	@	4¾

CALVES.—

Veal calves fairly active but lower.

Extra calves	7½	@	7¾
Fair to good	6	@	7
Poor and common	4½	@	5½
Grassers	3	@	4

HOGS.—

Hogs lower.

Fat hogs, Pa., Del. & Md.	7	@	9
Fat hogs, Western	9½	@	10

SHEEP.—

Sheep and lambs about steady.

Sheep, extra clipped	5¼	@	5½
Sheep, good	4¼	@	5
Sheep, medium	3½	@	4
Sheep, common	2	@	3
Lambs, spring, each	2.50	@	5.50

◆

New York, May 2, 1903.

WHEAT.—

Wheat futures were more active but were not so steady. The market was helped some temporarily by the big decrease in the available supply and reports of unfavorable weather conditions in the Southwest. Chicago was steady and the Northwestern markets were firm. The winter wheat markets were easier. The forecast was for colder weather, with rain or snow in Nebraska, the Dakotas and Minnesota and rain and colder generally. Chicago carlot receipts were 78, with 75 estimated for tomorrow. Northwest carlot receipts were: Minneapolis, 65, against 51 last week and 87 last year; Duluth, 29 against 17 last week and 48 last year. Seaboard receipts were 324,155 bushels and exports were only 50,762 bushels. Interior receipts were 483,893 bushels, with shipments of 543,265 bushels. The receipts at Kansas City were phenomenally large, being 170,400 bushels against 44,800 bushels a year ago. According to Bradstreet's the visible supply in the United States and Canada, east of the Rocky Mountains, decreased 4,152,000 bushels; afloat for and in Europe decreased 600,000 bushels and the world's available supply decreased 4,752,000 bushels. A possible move by the elevator interest in Chicago is keeping both the longs and shorts on the anxious seat. Speculation is rife as to what move Mr. Armour will make next. It is conceded that the May price will be high or low as he wills. How high he will put May is, of course, all a matter of conjecture. He may hold his long line until the more distant futures, July and September, get low enough to help him out, or he may conclude to get out in a hurry. If he should pursue the latter course a repetition of the pyrotechnics of last week may be anticipated. Although he is in virtual control of the market, Armour may be forced to go to extremes in order to get out and the outcome of any such move would mean a big drop in prices. It is this uncertainty which is now a bar to anything like active trading.

No. 2, red	82⅞	@	83¼
No. 1, Northern Duluth	86⅞	@	87¼

CORN.—

No. 2	56½	@	57
No. 2, white	54		
No. 2, yellow	54		

OATS.—

No. 2, white	40
No. 2, mixed	38
No. 3, white	38

HAY.—

Prime, large bales, 100 lbs.	1.20		
No. 1	1.10	@	1.15
No. 2	95	@	1.00

BUTTER.—

Creamery, extra, per lb.	23		
Creamery, firsts	21½	@	22½
State dairy, fresh, tubs—			
Fancy	22		
Firsts	20	@	21
Packing stock, solid packed	13	@	15
Rolls, fresh, com. to prime	13	@	15

CHEESE.—

State, f. c., small—			
Fall made, colored, fancy	15		
White, fancy	14¾		
Colored, choice	14½	@	14¾
White, choice	14¼	@	14½
State, f. c., large—			
Fall made, colored, fancy	14½	@	14¾
White, fancy	14¼	@	14½
Colored, choice	14¼		
White, choice	14¼		
State, light skims—			
Choice	10		
State part skims—			
Common to prime	3½	@	8

LIVE POULTRY.—

Spring chickens, nearby	30	@	35
Southern	25	@	30
Fowls, selected, heavy, lb.	11		
Roosters, young, per lb.	11½	@	12
Turkeys, per lb.	11	@	12
Ducks, average, per pair	70	@	1.00
Geese, average, per pair	90	@	1.37
Live pigeons	30	@	35

DRESSED POULTRY.—

FRESH KILLED.

Turkeys, old, per lb.	[illegible]	@	17
Turkeys, young hens & toms	[illegible]	@	15
Chickens, Phila. broilers, lb.	[illegible]	@	40
State & Penna. broilers, lb.	[illegible]	@	30
Fowls, West., scalded, per lb.	[illegible]		
Fowls, dry picked	[illegible]		14
Spring ducks, nearby, per lb.	[illegible]		
Squabs, large, white, doz.	[illegible]		
Dark, per doz.	[illegible]		1.75

EGGS.—

QUOTATIONS AT M[illegible]

State, Pa., and nearby—			
Fancy selected white	17	@	17½
Fresh gathered, firsts	16	@	16½
Western—			
Fresh gathered, firsts	16		
Ky., fresh gathered, firsts	16		
Tennessee and other Southern—			
Fresh gathered, firsts	15½	@	15¾
Duck eggs, Baltimore, doz.	23		
Western and Virginia, doz.	20	@	22
Tenn. and other Southern	18	@	20
Goose eggs, per doz.	30		

APPLES.—

Pomeroy, per bbl.	2.00	@	2.25
Ben Davis, per bbl.	2.25	@	2.75
Baldwin, per bbl.	2.00	@	2.50
Greenings, per bbl.	2.25	@	2.50
Common, all kinds, per bbl.	1.00	@	1.25

GREEN FRUITS.—

Lemons, Cal., 300s	3.10	@	3.50
Lemons, Cal., 360s	2.75	@	3.00
Oranges, Cal., budded, boxes	2.00	@	2.50
Oranges, Cal., blood, boxes	2.50	@	3.00
Navels, Cal., boxes	2.25	@	3.85
Tangerines, Cal., straps	2.00	@	3.50
Grape fruit, Fla., boxes	6.00	@	10.00
Grape fruit., Cal., boxes	2.00	@	4.50
Pineapples, Fla., crate	2.50	@	3.00
Strawberries, Char., per qt.	15	@	25
Strawberries, N. C., qt.	15	@	25
Strawberries, Nor., qt.	10	@	15

POTATOES.—

Fla., Rose, new, prime, bbl.	4.00	@	5.00
Rose, new, seconds, bbl.	2.50	@	3.50
Chili, red, new, pr., bbl.	3.50	@	4.00
Chili, red, seconds, bbl.	2.00	@	3.00
So., second crop, pr., bbl.	2.00	@	3.00
Second crop., sec., bbl.	1.25	@	1.75
Long Island, bbl.	1.75	@	2.12
Maine, per sack	1.75	@	2.25
State & West, bulk, 180 lbs.	1.50	@	2.00
Per 168-lb. sack	1.50	@	1.90
Western, per 150-lb. sack	1.40	@	1.50
Sweets—			
Vineland, cloth top bbl.	2.75	@	3.75
Other So. Jer., d-h bbl.	2.25	@	3.25
South Jersey, per basket	1.00	@	1.37
Del. & Md., per basket	1.00	@	1.25

VEGETABLES.—

Asparagus—			
Colossal, per doz.	5.00	@	6.00
Extra, prime, per doz.	3.00	@	3.50
Prime, per doz.	2.25	@	2.50
Short cut, per doz.	2.00	@	2.50
Culls per doz.	1.25	@	1.50
Beets, Charleston, per 100	1.50	@	3.00
Carrots, old, per bag	90	@	1.00
New, per 100	1.50	@	2.00
Cabbage, carlots—			
Danish, seed, per ton	6.00	@	10.00
Per barrel	65		
Charleston, new, crate	1.75	@	2.00
Cucumbers, No. 1s, per doz.	50	@	75
Florida, crate or basket	2.00	@	4.00
Southern, frame, basket	3.50	@	4.50
Celery, Fla., fancy, crate	3.00	@	4.00
Average, per crate	2.00	@	2.50
Eggplants, per crate	3.00	@	4.00
Kale, per bbl.	40	@	50
Lettuce, nearby, per bbl.	1.30	@	3.00
North Carolina, per basket	50	@	1.00
Charleston, per basket	75	@	1.00
Leeks, N. O., per 100 bun.	1.00	@	1.50
Peas, So., 1-3-bbl. basket	1.25	@	2.25
Parsley, per 100 bun.	4.00	@	5.00
Radishes, per 100	1.00	@	1.25
Norfolk, ½-bbl. basket	50	@	75
Rhubarb, per 100 bunches	1.50	@	3.00
Spinach, per bbl.	1.50	@	2.25
String beans—			
Wax, per crate	2.00	@	2.75
Green, per crate	2.25	@	2.50
Green, per basket	2.50	@	2.75
Squash, Hubbard, per bbl.	1.25	@	1.50
Marrow, per bbl.	1.25	@	1.50
New, white, per crate	1.50	@	2.00
Shallots, per 100	50	@	60
Turnips, Russia, per bbl.	1.00	@	1.50
Tomatoes, Fla., fancy, car.	2.75	@	3.50
Fair to good, carrier	1.50	@	2.50
Hothouse, per lb.	20	@	30
Green peppers, Fla., crate	1.00	@	1.25
Onions—			
Hard stock, yellow, bbl.	1.50	@	2.00
Hard stock, red, bbl.	1.00	@	1.25
Average, red, bag	40	@	60
Average, yellow, bag	50	@	75

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WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.

XX and above	30@31
X	28@29
Medium	29@30
Quarter blood	29@30
Common	25@27

UNWASHED (light and bright.)

Fine	19@22
Medium	22@23
Quarter blood	22@23
Coarse	20@21

UNWASHED (dark colored.)

Fine	16@17
Fine medium	17@19
Medium and quarter	19@20
Coarse	17@18

COMBING AND DELAINE FLEECES.

Washed fine Delaine	31@33
Washed medium	30@31
Washed low	30@31
Washed coarse	27@28
Unwashed medium	23@24
Unwashed quarter blood	23@24
Braid	21@22

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

The Sea of Life.

JULIAN COOKE.

This life, through which we madly strive,
  Is but a narrow sea,
Between two vast, two boundless shores,
  Unknown eternity.

Each in his frail craft, launches out
  From one dark, shadowy land,
And we know that at last the storm-tossed boat
  Will reach the other strand.

For some the journey is o'er when commenced,
  For some it is four score years
Of grief, and joy, and love, and hate,
  Of peace and doubting fears.

We contend with each other for power or wealth,
  A wealth that is rotten at core;
But our jostling and striving is merely a race
  That hurries us on to the shore.

In doubt and despair we cry aloud
  To those gone on before;
But echo alone comes faintly back
  From that dimly outlined shore.

One craft, sailing o'er this mysterious sea,
  Striving some goal to reach,
Is like to one shining, foam-washed shell—
  One shell on the boundless beach.

The grief, the pain, the sorrow, and woe,
  In one life of four score years,
Are but as one tiny, glistening drop—
  One drop in an ocean of tears.

And the kindnesses done in one fleeting life,
  That many a blessing invokes,
Are but as one scalloped, dew-laden leaf—
  One leaf in a forest of oaks.

Ah, mighty the Hand that rules the waves,
  And stills life's tempestuous sea,
And guides each barque to its haven safe
  On the shores of eternity.

Farina, Ill.

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Editorial Chat.

"The heart of all the world is home!
  And you may travel east or west,
  And choose a place that seems the best,
But, sometime, homeward you will come.

"The heart of all the world is home!
  There balm and heart's ease you will find,
  And peace and solace for the mind,
When, homesick, to its door you come."

* * * * * * * *

A young mother asks for a list of books suitable for a child of six and yet with words that a four-year-old can understand. Please, some of the experienced mothers, help us out. The little one in question is already familiar with "Mother Goose Melodies."

We presume there is such a difference in the mental calibre of children that to give a list that will fit all six and four-year-olds will be impossible. A little fellow of our acquaintance—a mere baby—was reminded by his father recently that he must eat slowly and chew his food fine.

"Oh, yes," he exclaimed in great disgust, "Fadder always says 'chew it fine, chew it fine,' and it does annoy me so!"

Later, his mother was obliged to go to the hospital. The first evening at supper the little chap said sagely: "Fadder, don't it jar you to sit down to supper without mother?"

This boy has the mind and expressions of a much older child, while others at his age are mere babes. But we understand it is for the precocious one we are seeking stories, so let us have your lists, only adding, simplify the Bible stories yourself, mother, and tell them freely. Our first recollections are of those listened to from mother's lips as we sat in our little red rocker beside her.

Someone, in a recent H. C. article, objects to nicknames in the family. We were reminded of this the other day when a teacher was telling about a family of children in her department. It seems the mother has them all nicknamed at home. For instance, one is "Round-Headed Fool," another "Hen's Nest," and so on. Well these children come to school and at once begin nicknaming their mates. We all know how readily others take up anything like this, and so the trouble grows, and all the fault of one ignorant, silly, sinful woman. In our opinion children should be taught to say (as the little lad before mentioned, whose father is a university professor and his mother a medical graduate, says), "father," "mother." Let the "mas," and "pas," "papas" and "mammas," "daddies" and "momsies" die a natural death, along with the "Birdies," "Kitties," "Minnies," "Effies" and all the rest of the baby names. Why cannot parents remember that, while they may do for the wee one, they sound ridiculous when applied to full grown mortals! And don't nickname—don't.

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Many, many thanks, Sister Pleas, for the splendid assortment of vines, shrubs and flowers sent us. They are treasures indeed! We will do our best to make them feel "at home" with us here.

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"I appreciate the P. F. as one of the best and most useful papers published."—Hugh P. McNary, M. D., Princeton, Ky.

Influence of Home Life on the Child.

MRS. S. E. WOLFE.

I consider that it is the strongest influence that is brought to bear upon the young. Upon it depends, in a great measure, the future of the child. I have often stopped on the street to listen to children talking, and watched them at their play, and I have thought it should be a lesson to the mothers if they could hear them repeating the expressions they are so familiar with at home.

A Catholic priest once said: "Give me the training of a child until he is ten years old, and I care not what influences come to him after that." So it would appear very necessary that the home influences and first impressions be of the right kind. It seems to me as if, in the majority of American homes, the moral and spiritual parts of a child's nature are not cultivated enough. There seems to be a shamefacedness about acknowledging any obedience to the Divine law, and to be a growing tendency to find satisfaction in many other things. For my part, I believe in the Old Book that says, "Train up a child in the way he should go and when he is old he will not depart from it." If the home life is selfish, arbitrary and unpleasant, remember "like begets like." When you see a little girl shake her doll and tell her she will take her head off, she is simply repeating. When you see a boy defying his mother, nine times out of ten he has learned it from the father, who has not given the wife the respect due her as his wife. Then there seems to be a general idea among American men that the women can get all the religion that is needed for the family, and that has a bad influence in the home on the children, for the boys soon follow the father's example. I would like to ask these same men how they would like to live in a town that had no Christian influences. I heard a hotel man say he would not own property in a town that had no churches in it, and I believe the day will come when the American nation will be given over to the worship of idols, and we shall have to have missionaries sent to us. The worship of idols has begun in California already.

[Indeed, taking your views literally, sister, they are rather pessimistic; and yet our nation certainly is giving itself over, in a manner, to idol worship—the worship of wealth and pleasure. Yet we know that God reigns, and that every knee shall bow and every tongue confess. What you say about the father's influence over the boy was fully illustrated by the little boy in our town who said to his Sunday School teacher that he was not going to Heaven; ma and sister were going there; he was going with pa. Parents, where are your children going?—Ed.]

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Laundering Lace Curtains.

E. J. C.

It is not usually convenient for farmers' wives to send lace curtains to the laundry, and as they become soiled after using them a few months, it becomes necessary to learn to do the work at home. The following method is an easy one, and after giving it a trial, we feel sure that any housekeeper would find it more satisfactory than to trust them to the tender mercies of the ordinary washerwoman. Take the curtains down, carefully remove all the pins and small rings that have been used to keep them in place, and shake them to remove the dust. If there are any broken places they should be darned with fine thread before they are put in the water, for very small rents are apt to become large holes during the laundering process, unless they are carefully mended. Prepare half a tubful of hot water, adding a little borax and enough soap to make a strong suds. Let them soak in this half an hour, then rub them gently between the hands and work them up and down until the water looks dark. Pass them through the wringer, being careful to keep them from catching on a nail or screw or tearing in any way. Two suds prepared in the same way are usually needed to get them clean. The borax saves the curtains by lessening amount of rubbing necessary to get them clean, and should always be used for washing anything that requires careful handling. Rinse in clear water, then dip them in a thin boiled starch that is slightly blued, if a clear white is desired. Saffron added to the starch will make them a delicate cream color, or cold coffee will give them an ecru tint. A frame for drying curtains may be purchased for a reasonable price, or a very good one can be made at home after the style of the old-fashioned quilting frames. But they are not indispensable, for the curtains can be nicely dried without them. Cover the carpet in a room that is not in general use with clean sheets, stretching them smoothly and tacking them to the floor. Spread the curtains out on them, being careful to have them straight, and pin each scallop to the sheet. Open the windows so they will dry quickly.

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Success With Turkeys.

MRS. C. T. THOMAS.

It was with many misgivings that I undertook the raising of turkeys, for I had heard much of the difficulties attending it. But, like most women, I wanted to earn some money that was my very own, so I purchased a sitting of common turkey eggs, for which I paid 50 cents, and succeeded in raising one gobbler. Then two young hens were procured and from the mating I raised a nice lot of turkeys. As I now had learned something about them, I ventured to get a sitting of twelve pure Bronze eggs, hatching and raising eleven. Now I thought it best to dispose of all but pure stock, and as it is very important to keep the parent birds from being related, every year I add to my stock either a new tom or a sitting of eggs from as good breeders as there are in the country. I usually set a chicken and turkey hen at the same time, giving all the young ones to the turkey hen. When the young are hatched, have a good roomy coop ready, but before putting them into it dust the hen with some good insect powder. When the little poults are twenty-four hours old they are fed with hard boiled egg, chopped, shell and all, with a very little grit, and liberal sprinkling of black pepper. After a day or two a little chopped onion is added. I do not find it necessary to keep up the egg diet, only as an occasional treat, as milk curds made fresh every day, given with bread made of corn meal and a little bran, does equally as well and is less expensive. Until the poults are old enough to turn out I feed them five times a day, but never feed them all they will eat, for a great many are killed from over-feeding. They are turned out to run the third or fourth day, driving them in their coops between four and five o'clock, or if a rain comes up, as they should never be allowed to get damp or wet. Keep the turkeys gentle. Go over them once a week for lice, which will be found between the quills on the wing. I use vaseline mixed with sulphur, applying it with a small, stiff artist's brush, as that can easily be pushed up between the feathers without danger of using too much grease. By the time the little turkeys are a month or six weeks old they are allowed their full liberty. Turkey raising has not only been profitable with me but a source of much pleasure. My turkeys are at all times so gentle that they know me from all others, and crowd about to eat from my hand. The only time when they are not a pleasure is the time to dispose of them. If they are to be dressed for market (I have never sold one alive at the market, to be put in a crowded coop and roughly handled) they are killed as quickly and humanely as possible, and I console myself with knowing that they have had every care during life. My most enjoyable trip, because paid for with money I had earned, was a month's vacation in Minnesota last summer. This year, with the present price of dressed turkeys' 20 cents per pound, and forty turkeys to dispose of, will leave me with money to plan a future trip or to do with as I wish. The work is easy and pleasant and can be done without neglecting my other duties. In fact it makes the monotonous routine of housework rather more agreeable, for my turkeys are my recreation, not work, for I love them and their care is pleasure.

Pulaski Co., Ark.

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H. C. I. S.

Aunt Araminta, Maryland, writes: How about the H. C. I. S.? I thought we all had to write an account of how we spent that one lonely dollar. I have been looking for reports, but as yet have seen none, so will set the ball rolling by sending my mite. Well, I had intended to spend several hundred dollars in improvements to buildings and fences; but when it came to decide what particular thing could be done with one poor little dollar, worth reporting, I was at my wits' end. But I went to the flower yard and soon found that there were several roses that I wanted. While I had quite a large number of bushes and did not have a Crimson Rambler, or Marechal Neil, or American Beauty, I sent at once for these three. (Does a woman ever have enough roses?) With the remainder of the dollar I bought a new sickle, which I found of great help in keeping the corners trimmed up. My three new roses are growing nicely and I expect them to bloom this season. My sickle is sharp and ready for business and I am waiting to hear reports from others.

[There, we are so glad that the ice is broken. Now let the reports roll in. When you said "Crimson Rambler," Aunt Araminta, it was a home thrust, for we have long wanted that identical climber, but every time it gets crowded out. What a lot it costs to get even a few of the things one "wants the worst," when trying to fix up a home. But there is comfort even in doing without something when one is bound to have it sometime. "Anticipation," you know. Let us hear from others. The name of Aunt Araminta's place is Lone Beach Lawn.—Ed.]

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The Horse.

V. C. M.

Many valuable articles were written concerning the winter and spring care of this animal, but of necessity they are much alike, and are now a little out of season. But we wish we might impress the advice they give and the lessons they teach on every human being who has to do with the horse. Why cannot men realize the kindness of the Creator in providing him with such a powerful and willing servant, and why are they not all just and civilized enough to give him the kindly treatment he deserves? Why do they not remember that these animals get tired and sick and hungry and thirsty, yes, and nervous, just like their masters? Impatient, careless driver, just imagine yourself in a dusty, uncomfortable harness, cutting or pinching somewhere, perhaps, a bit in your mouth and possibly your head drawn up until your neck aches and your eyes are watering from the sun's rays shining in them. Then imagine you had no hands to help yourself with; could not speak to make your wants or woes known, and could only rest, or eat, or drink as some man saw fit to let you. Imagine all this and some other things that maybe you can think of and we cannot, and then ask yourself if you are doing to your horse as you would be done by in his place. Remember, too, that he gets nothing for his life of toil and suffering but the food and shelter you too often provide tardily, grudgingly, or not at all. As you hope for mercy, grant it to the dumb creatures in your care. Prefer their comfort to your own, because they are helpless.

If there happens a man to read these lines who has no heart—nothing but a pocketbook—let us appeal to him through that. A man is a fool who misuses his dumb servants. He is stealing from himself both for time and eternity. And it is not enough that you are good to your own horses; see that your neighbor is good to his. It is your right and duty to do this. The law supports you in it—the law of God and man. One thing more—if you have a blind horse, shoot it. No man living has a moral right to drive or sell a blind animal. It is the essence of cruelty and injustice. The life of a blind horse is one of unmitigated fear and torture. If you own such a one, put yourself on record as a man and end its misery at once. Oh, the pity of it, that anyone would enrich himself at the constant, intense misery of a creature as capable of suffering as himself!

Once more we suggest that you bring your imagination into play, and try to think what it must be to be totally blind, wholly dependent upon the hand that strikes you a thousand undeserved blows. For one minute, brother, be unselfish enough to try to realize the misery of a blind horse, and squarely face the question: "Can I afford, for the little gain there may be in it, to stand before my Creator at the last with this crying sin to answer for?" To every merciful man and woman, to every Band of Mercy boy or girl we send the appeal: "Come with us and help us to right this wrong; to secure legislation which will make the keeping and working of such a creature, a crime, punishable by no mean penance." Everyone has an influence; everyone has a responsibility. For years we were compelled to witness the nervous terror and abject misery of an old horse whose master, in a fit of anger, punched out one of her eyes, and a little later struck out the other. She was a handsome, high bred beast, highly sensitive, and, as we say, her life was one long torture even after she fell into less abusive hands. This is but one instance, but there are tens of thousands existing all over this country.

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Correspondence.

Mrs. Cora B. Eaton Cleveland, N. C., writes: Since the Editor asks how I market my "wares," I will take pleasure in giving to the readers of the H. C. this information. I have no trouble in finding a market for all the fruit and vegetables I can put up. To get my goods introduced I had to sell in small lots, from one to a dozen cans for samples, at a reduced price. After that I had no trouble to sell all my canned vegetables—beans, tomatoes, etc.; wholesale at $2.40 per case, two dozen in a case. Fruits, such as peaches, berries, etc., bring $2.50 to $3.00 per case. Nice, tender beans will make 20 three pound cans to the bushel, and one bushel nice tomatoes, 18 three pound cans. One bushel peaches will make 20 three pound cans, and berries 30 to 33 three pound cans. Other vegetables and fruits yield as much, or more, per bushel, as the above named. Now, with a little figuring you will see "How I make money." I sell all my canned goods to two or three merchants in our county town, Salisbury. I would not part with my little canning outfit if I could not get another. Canned goods sell best in January, February and March.

Mrs. M. S. Barber, Strykersville, N. Y., writes: I would like to expose a fraud (of which I was a victim) through the columns of the H. C., and also to apologize to the P. F. sisters who received letters from me (which I wrote in all sincerity), desiring them to engage in the work. The fraud consisted of writing fifty letters each week for a certain ladies' paper of Philadelphia, requesting others to subscribe for the paper and also to become stockholders and engage in the work. The writer was to receive 25 cents for every letter that brought an answer (but she didn't). The company does not do as they agree and I would not advise anyone to trust them. Could any of the sisters suggest indoor amusements for little ones (too young to read) during winter evenings and on stormy days?

Mrs. Linna G. Luce, Cherry Creek, N. Y., writes: I have enjoyed the P. F. and its H. C. pages so much, I feel like telling about it. We have taken the paper for six years, and it would be almost impossible for me to enumerate the benefits we have derived from its teachings in that time. My family's health has been improved at least 50 per cent. by following the advice given in Mr. Terry's "Health Hints." Besides, our methods of farming have been greatly improved, as well as many of my methods in housekeeping. It is wonderful how much one may learn by reading a good home paper. Will give my experience with pansies. Last spring I purchased a packet of mixed pansy seed. I selected a place for them on the east, and sheltered, side of the house; dug out the soil till about a foot deep, then partially filled with well rotted manure from the hog yard, and finished filling with the original soil and sowed the seed. They germinated well, grew rapidly and blossomed profusely; but, oh, such ragged blossoms. Something gnawed nearly all the buds as fast as they formed. Now, can anyone tell me what would gnaw them and what to do to prevent it? We have named our place "Apple Blossom Poultry and Dairy Farm." The house is nearly surrounded by apple trees. I have a small quantity of gladioli bulbs that I would be glad to exchange for montbretias, tigridias, bleeding heart, or almost any good flowering bulbs.

Myra Woodford, Laytonsville, N. Y., writes: I have been reading the Correspondence Column of the P. F. and see so many interesting subjects under discussion there, that my desire to be among you all has overruled my feelings of incompetency to some extent. Winter, like all other seasons, has slipped away, and we pined for its exit with a longing hard to explain, for we do not know what joys or sorrows may come, or what hopes may be blighted. Still we naturally looked forward to spring as a time when, as it were, the very heart of nature bursts forth and invites the whole world to share in its glory. I think it is then that man is inspired with greater energy to take hold of business, whatever his vocation is. We will take farming, for instance. What is more beautiful in springtime than a well kept farm? I am a farmer's wife, and love the farm and its surroundings of sheep, hogs, poultry, etc. The city has its advantages of good schools and some other conveniences, but it cannot cope with a sweet country life, where the little birds can roam at will and sing their sweet songs. Here we can have all kinds of fruit, and a good dinner cooked from our kitchen garden. How we do enjoy it! And the flowers, how we do love them! But I never cared so much for flowers until we moved here where we now live. There was nothing in the shape of flowers in sight, so I went to planting shrubs, and the love for them has kept creeping over me until now I call myself a flower crank. But God in His great wisdom, has seen fit to set upon me the hand of affliction, and I have not been the help to my husband that I long to be, but he has been ever kind, bearing with me in my afflictions like a saint, and the Lord will bless him for it. I have never been in a state of mind but what I could say "The Lord's will, not mine, be done." I have been an invalid for twenty years; ten years a shut-in, five years in bed, but I am some better now, but there have been very few days in the past twenty years but what I have to lie down more or less through the day. Sometimes I think my afflictions are almost greater than I can bear. But there never was a cloud so dark but what it had a silver lining, so I look for the bright side. Sisters, if any of you have more flower slips than you need, will you please divide with me? A few of any kind will be much appreciated. My pit flowers died badly. Will send some seed in return if desired. Have red and white cosmos and other kinds.

Mrs. Fred Adlard, Ajax, Oregon, writes: Dear Mrs. Melville, I am one of the H. C., and write this for my shut-in friend, Mrs. Wm. Callahan, to thank the H. C. for the kind letters and help she has received. One man bought two quilts of her. She is nearly 67 years old. I help her by sending her scraps to piece up, and stamps now and then, but we are poor and have to work hard; but I have my health and feel rich in that great blessing. Husband and I love the P. F. This has been a long, tedious winter; have had no warm weather. Farmers are far behind with their work. I will close, hoping the sisters will not forget Mrs. Wm. Callahan, Webster, Ill. I receive letters regularly from Ellen Kinney, and love to read them.

[Again we rejoice to know that another lonely life is brightened through the influence of the H. C.—Ed.]

◆

Youth's Parliament.

Cassie Mahaffey, White Water, Col., writes: Dear Mrs. Melville: I would like to thank, through the Y. P., all those who so kindly answered my letter in which I asked for a correspondent. I received so many answers that it is impossible for me to answer them all by letters, but I will try and answer some of the questions through the P. F. This is just a stock country, and a poor one, as the range is overrun. Our ranch is partly in Utah and partly in Colorado. It is on the Rio Dolores River. We live near the State line, on the Utah side, and on the south side of the river. The soil is poor. Alfalfa is about all that can be raised here. We are fifty miles from White Water, Col., which is our postoffice, and we have to go ten miles further for our supplies. In the spring the Rio Dolores rises and then for two months we cannot get our mail at all. At present there are no schools here, but we hope by next winter to have one. I think this will answer all the questions about the country. About myself will say, I was fifteen on New Years eve; am five feet three inches tall, slender, with long, heavy, brown hair and blue eyes. My mother was thrown from a horse last August and very badly hurt. Well, my letter is getting so long that Mrs. Melville will have to put it in the waste basket if I do not stop, so I will close.

[No, indeed, we would not object to several pages as good as this.—Ed.]

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Topic No. 573, May 23.—*Give Your Experience with Portable Fruit Evaporators, and Tell How You Keep Worms Out of the Dried Fruit.*

Topic No. 574, May 30.—*How Did You Commence Farming? What Difficulties Did You Have? How Did You Overcome Them and What Success Have You Had in Improving Your Land and Yourself?*

Topic No. 575, June 6.—*Has the Manure Spreader Paid You on Your Farm for its Cost Over the Old Method of Hand Spreading? Can You Use it Profitably on Hilly Land?*

Topic No. 576, June 13.—*Where a Farm Can Only Afford to Have One Wagon Should it be a Low-Down One or Not?*

Topic No. 577, June 20.—*Have You Ever Grown Irish Potatoes Under Straw? If so Tell us How You Succeeded and How You Planted Them and When?*

Topic No. 578, June 27.—*Experience in Cheese Making on the Farm. How do You Make and Cure and Keep it, and What Kind of Rennet do You Use?*

Topic No. 579, July 4.—*On What Crop Does the Farmyard Manure Pay You Best, and How do You Manage it?*

Topic No. 571.—Give us Your Experience With Alfalfa East of the Mississippi.

Frank Moffitt, Carmel, Ind.—For the past five years I have been experimenting with alfalfa in a small way here. During this time I have tried sowing it with wheat after the manner of sowing red clover, but got no alfalfa. Have sown it in the fall, and it came up well, but not much of it was left in spring. Have sown it with the oats crop with partial success. Have tried light seeding of oats with it as a nurse crop with still better success, but had the best results from sowing alfalfa alone. Sown about the first of May on land that had been plowed early in April and kept well worked for three or four weeks before sowing. The piece was clipped over twice the first season to cut back the alfalfa and the weeds. My soil is high, gravelly clay loam inclined to be dry. Last season I had two acres for cutting. It was three years sown and I got four cuttings. The first crop was the heaviest, and yielded about with red clover. The later cuttings were not so heavy, but made finer hay. I have learned to cut just as the first blooms begin to show. If let stand a few days longer the leaves will drop and the stems become woody, and the growth of the next crop will not start up so readily. I am feeding alfalfa hay now both to work horses and milch cows. It is all right. Have cut much of it and fed it to hogs without curing, but lost a good calf by feeding it alfalfa in this way. I do not care to take the chances of pasturing cattle on it. In parts of the field where the growth was light, I treated it to a good dressing of barnyard manure, but could see no improvement. Then tried wood ashes, and was so well pleased with the results that I have used eight tons on two acres. I think the benefit was due mainly to the lime in the ashes. Part of the field is now starting on its fourth year and seems to be better than ever. On account of its permanent nature alfalfa is not so well suited as red clover to a place in the crop rotation, but I believe that a few acres of alfalfa meadow on each farm, to be fed in the winter along with the corn and fodder will about settle the question of a balanced ration for winter feeding.

Louis T. King, Huntsville, Ill.—I have an acre of alfalfa, seeded in the spring of 1900. It yielded nothing until last year, when I cut it four times, making one and a quarter tons per cutting. Having seen it growing in the West, I was much impressed with its value, and made four attempts to grow it before succeeding, and this in the face of Prof. Massey's warning not to try it east of the Mississippi River, as it would only make a feeble, sickly growth and soon give up the struggle. I tried it first by sowing with oats. Being dry, so few seeds grew that the ground was plowed and sown to grass. Two years later, in mowing over the ground, I discovered a very thrifty alfalfa plant in full bloom. I reasoned that if one plant would grow successfully, more would. I sowed another small patch that made a good growth the following fall, but cattle ran on it and tramped it out during the winter. The next trial was on ground too flat and wet, and it froze out. The last, sown three years ago on a dry hillside, with oats, nearly perished in the memorable drought of that year, when all clover and much grass died. Up to this time it looked as though I had better have taken Prof. Massey's advice, and let alfalfa alone, but persistence sometimes brings its reward, and on the 8th of May, 1902, there was a uniform growth 20 inches high before the pastures would afford a bite of grass. At present it is more promising than ever, and I am sowing ten acres this spring. The final success is doubtless due to the bacteria and root tubercles, which did not appear till last year. My soil is white oak loam, that shades off into tough, heavy clay in places, the alfalfa doing about as well there as elsewhere. I confess to a little pride over my success now in spite of the past, not present, teachings of Prof. Massey, and the adverse criticism and opinion of all my friends and neighbors.

[This only shows that none of us are too old to learn. For over thirty years we had seen only failure, as a rule, with alfalfa in the East and had concluded that the trouble was climatic. But we have learned that the fault was with ourselves and not with the climate, and that when properly managed the alfalfa crop is as certain and valuable in the East as elsewhere, and is certain to become a standard meadow crop all over the land North and South.—ED.]

W. S. Lutzow, Morris, Ill.—I believe there is no crop that pays better for the amount of work than alfalfa. After the severe winter of '97, which killed off our clover, I decided to try alfalfa. With no experience to back me I bought 100 pounds of seed, and sowed it with the oats in the spring as we do clover. By the time the oats were cut it stood a foot high all over the land. The next year we harvested three crops, and in 1901 three crops, which made 13 large loads of hay from the five acres, on an 8x16 foot rack, and the season was dry. Last year we made three cuttings and got 15 loads of hay from the same field. For the benefit of those who would try it I would state that after the first year it is best to disk it in the spring, and then smooth with a harrow. You may think that this treatment would kill it, but it will not. It will kill the weeds that have started, and send the alfalfa along at a double quick. The land on which we raised this is near the timber, clay soil on part, and on one end a sandy loam with a sandy subsoil. There is no better paying crop, for everything from a hen to a horse will eat and thrive on it.

R. C. Trowbridge, Onondaga Co., N. Y.—We know from experience that there is much land in New York that, properly fitted for the crop, would make four to five tons per acre of alfalfa hay, where farmers are now getting two tons per acre of cured hay. It should not be sown on land in regular rotation with other crops, for it will hold the land for many years if cared for. It has done finely for me on our creek bottom with black muck soil and no hard-pan below, similar to much prairie soil. It will do especially well on limestone soil and on some gravelly lands. A farmer should try some of his best land near the house to save travel. Alfalfa will not thrive among weeds or with grasses like orchard grass. The soil should be tilled and cultivated thoroughly in hoed crops for two years, such as cabbages, corn, potatoes and beans, to clean out the weeds and weed seeds. Then plow and fit the land as for a garden. This labor will pay well once in 12 years. Sow 25 to 30 pounds of seed per acre to get a thick stand over the land. Sow last of April or first of May in this climate. Go over with a light harrow and then roll. Some say use no nurse crop, but I would sow not over one bushel of oats per acre with the alfalfa. These shade it just right in dry weather. It should be cut as soon as the first blossoms start, and then it will branch and thicken up better. It needs more curing than other clover, and mainly in the cock.

E. F. Roff, Dimsdale, N. C.—I have sown a small piece of alfalfa as an experiment on a pea stubble in drills 18 inches apart and quite thickly in the drill. I had a good stand and it was three inches high in late November, when I scattered fresh manure over part of it. The rest I let go bare. Cold did not seem to affect it much, but a few warm, balmy days this spring, and then a sharp cold night bit the tops some but did not kill it. Where the manure was put in November one-half the plants are killed, and there is a bad stand, but where no manure was put there is a good stand and is doing well. I sowed the seed the 23rd of September, 1902, on well drained upland soil, somewhat sandy, with a porous subsoil. The alfalfa cannot contend with weeds, and I have cultivated and cleaned mine. I think, as a rule, that cow peas are the best crop here, as clovers do not do well, and peas do well with little care.

[You should clip the crop over as soon as it shows signs of blooming, whether large enough for hay or not. This season will be the critical time with it, and it should be mown several times to strengthen the roots. A moderate application of lime will help it wonderfully.—ED.]

E. R. Davis, Cazenovia, N. Y.—I have found alfalfa one of the most profitable crops that can be grown, and to a dairyman almost indispensable, being so near a perfect ration. Some people here claim that they cannot grow it, as it will winter-kill. But this has not been my experience. It is sure death to alfalfa to try to grow it on wet land. It must be sown on land that is dry and the richer you make it the better, for heavy manuring will give you heavier crops. I sow 16 quarts to the acre, and usually cut three times during the season.

Thomas Patton, Mosgrove, Pa.—Little alfalfa is grown here. Twelve years or more ago a neighbor who had a brother in California who was always advocating the use of alfalfa in the East, sent his brother some seed, which he sowed on new land. It made as fine a stand as anyone could wish, and stayed there for years unaffected by cold or dry weather. This caused others to try it, but in every case it was a complete failure. Part of the seed did not seem to grow, and that which did made a very poor showing. It was short lived and both cold and heat seemed to affect it, while medium red clover made two to three tons per acre right alongside of it. So the farmers here are of the opinion that it is not suited to this climate, as clover has proved superior to it every time.

[The fact that it did well in one instance shows that the climate is not at fault. The failures are just what have occurred all over the East in times past. But now that we are learning the needs of the plant there is no doubt that on proper soil it will succeed with you. Not that it should or is ever intended to supersede red clover, but as a standby and a permanent meadow that can be relied upon in seasons when too dry for the clover.—ED.]

J. W. Bryan, Dillon, Ga.—Alfalfa has been successfully grown by three generations of my family in Georgia, since 1838. On the sea coast, in Middle Georgia, in Baldwin Co., in Bartow Co., and in Dade Co., Georgia. Alfalfa does not mind the texture of the soil, if it is rich enough. It is useless to sow alfalfa on poor soil. Our plan has been to prepare the land most thoroughly, plow deeply and cross plow, and harrow till all lumps are fined. Twelve pounds of seed per acre, sown in drills 18 inches apart and covered lightly. Sow in April. Keep clean the first year by plowing with a narrow plow and smooth with the smoothing harrow. Cut twice the first year. It will be at its full growth the third year, but will give three good cuttings the second. Top dress heavily with well rotted manure every third year. Five tons per acre of the best of hay is not an uncommon yield. Here our first cutting comes early in April, a month before red clover can be cut. For soiling, an acre near the stock lot is invaluable. As horses on light work need but one feed of grain daily if they have alfalfa freshly cut twice a day, it comes in well. Four or five cuttings a season are needed. Mow as soon as the alfalfa begins to show bloom. One acre well planted will furnish green and dry fodder for five horses for a year. For milch cows it is the finest of food. The root strikes very deeply, and if well cared for the alfalfa will last twenty years or more. Every farmer in the South should have at least five acres in this valuable forage plant.

SUMMARY.

We have never before had so complete a discussion of the alfalfa question in the East. We have had the topic up before in past years, but the experience in the eastern part of the country has seemed to be against its success. For one, the Editor, as is well known, had come to the conclusion that the alfalfa crop was not for us, as a rule, east of the Mississippi River. Mr. Bryan's practice is not a bad one at all, but it has been found that broadcast sowing and clipping will take the place of cultivation in rows and keep the weeds down. The great fields we saw a few days ago on the Occoneechee farm of Col. J. S. Carr, near Hillsboro, N. C., now a number of years old, were broadcasted and clipped and limed. Next spring it is the intention, we believe, to disk these fields over thoroughly and fertilize to renew the growth. It has been found that when the crop is a number of years old this disking and thorough chopping of the whole surface is of great advantage to the crop. Col. Carr had now about 25 acres in alfalfa, having broken up one field this season, and has also sown another large field to take its place. He is growing alfalfa as a money crop for the hay, which he sells in various parts of the country at a remunerative price. We are firmly of the opinion that south of the Potomac at least, if not somewhat north of that line, the sowing should always be done in the fall. Weeds trouble the young plants much less at that season, and a fairly good crop can be had the following season, after liming the young growth in the spring. The essentials in the production of alfalfa seem to be a strong soil well drained, clipping two or three times the first season, and an occasional dressing of lime. A plant of good size pulled from the soil will show few, if any, root tubercles, for they seem to be mainly on the smaller roots and further down than in most legumes. Dig a plant carefully and the tubercles will usually be found. Of course a plant that produces such a heavy growth draws heavily on the mineral content of the soil, and the fertility of the land must be kept up. Stable manure is good, but it is lacking too much in phosphoric acid and potash and tends to weeds. An annual dressing of acid phosphate and muriate of potash will be found better on most soils, and lime must be supplied once in four or five years. The time is close at hand when every farm North and South will have its permanent meadow of alfalfa, just as they now have a permanent pasture. Alfalfa is not intended to supersede red clover in the North or cow peas in the South, for it is not a plant to take into the regular farm rotation. But as a standby it will be found invaluable, and as in Col. Carr's case, it can be made a very profitable money crop.

◆

A Fine Kidney Remedy.

Mr. A. S. Hitchcock, East Hampton, Conn., (The Clothier) says if any sufferer from Kidney and Bladder Disease will write him he will direct them to the perfect home cure he used. He makes no charge whatever for the favor.

◆

The Luxury of Easy Shaving depends more largely upon the soap than anything else. The soap which will make a rich, creamy lather, thoroughly softening the beard, makes shaving not only easy, but pleasant. Williams' Shaving Soap does that and more. It acts like a healing lotion, leaving the face in fine, smooth condition. It is for sale everywhere and costs so little that it is within the reach of every man, and no one who shaves can afford to be without it. Write to the J. B. Williams Co., Glastonbury, Conn., and mention the P. F.

SAMSON Galvanized Steel Wind Mills. Sold under a most positive guarantee. Write for handsome illustrated Catalogue FREE. The Stover Mfg. Co., 562 River St., Freeport, Ill.

FIRE, WIND & WATER PROOF
SWAN'S STANDARD ROOFING 2 & 3 PLY
add to these qualities durability and low price, and you have a perfect roofing, which is SWAN'S. Can be put on a new roof, on old shingles or tin. It's soft and pliable, being easy to put on and becomes as hard as slate. Send for Free Sample and Circulars.
THE A. F. SWAN CO., 115 Nassau Street, NEW YORK.

STEEL ROOFING
FREIGHT CHARGES PAID BY US
Strictly new, perfect, Semi-Hardened Steel Sheets, 2 feet wide, 6 feet long. The best Roofing, Siding or Ceiling you can use. No experience necessary to lay it. An ordinary hammer or hatchet the only tools you need. We furnish nails free and paint roofing two sides. Comes either flat, corrugated or "V" crimped. Delivered free of all charges to all points in the U. S., east of the Mississippi River and North of the Ohio River
AT $2.25 PER SQUARE
Prices to other points on application. A square means 100 square feet. Write for free Catalogue No. 224
CHICAGO HOUSE WRECKING CO., W. 35th and Iron Sts., Chicago

FLINTKOTE ROOFING

Keeps the animals warm and dry. Lasts for years and is fire and vermin proof
The FLINTKOTE FOLKS 70 India Street BOSTON, MASS

Chats About Advertisers.

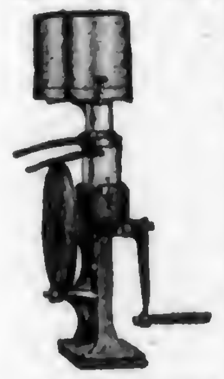
Then and Now.—Our attention has been attracted by a unique little book which our advertiser, the Elkhart Carriage and Harness Manufacturing Co. of Elkhart, Ind., is sending out with their new catalogue. It shows on opposite pages the styles of 30 years ago and the corresponding patterns of today. The comparisons are very interesting. A noticeable feature of the old-time illustrations is that it was customary to show only two wheels—those exposed on the face of the cut. The modern catalogue illustration engraved upon copper direct from the photograph has the decided advantage of showing every little detail of the vehicle as it really is and in its true proportion, which is very much more satisfactory. The large catalogue issued by this advertiser will be sent free to any reader of this paper who will write for it. These people make everything they sell and sell only to the consumer. They have no agents or branch houses, and so all extra profits and expenses are done away. Write today and be sure to mention the P. F.

New Buggy Book.—The newest things in buggies and pleasure vehicles of every description are illustrated and described in full in the new 1903 Buggy Book of the Kalamazoo Carriage & Harness Mfg. Co., 174 Ransome St., Kalamazoo, Mich., which will be sent prepaid and free of all cost to such of our readers as send their name and address to that company and mention the P. F. Here is a chance to become informed on the best new and latest improved staple vehicles without any expenditure of money. The Kalamazoo Carriage & Harness Mfg. Co. were the very first to enter the field with a thirty-day free trial offer to the people, allowing anybody to use the buggy he thought of buying for this length of time before definitely deciding whether its merits would warrant him in keeping it or not. Being large makers of buggies and harness, and having years of successful dealing with the user direct to refer to, it is their proud boast that their product has become known as the standard by which other makes are judged, "Kalamazoo quality" being recognized as the very highest, while the prices are astonishingly low, owing to the elimination of all jobbers, retailers, and middlemen generally, all transactions being direct between maker and you.

Kemp & Burpee Spreader Suit.—The U. S. Circuit Court at Syracuse, N. Y., recently decided that the patents held by the Kemp & Burpee Mfg. Co., of Syracuse, N. Y., on the Kemp Manure Spreader, are valid, and that other manure spreaders of a similar character are infringements on their patents. The suit was brought against the manufacturers of the Twentieth Century Spreaders. After the judgment was entered negotiations were opened, which, it is stated, resulted in an agreement by which the defendant company will continue the manufacture of the Twentieth Century machine. The judgment, he declared, was paid and a stipulation made by which for a certain sum the other suits are to be discontinued. They were against the sellers and users of the defendant's machines.

Split Hickory Buggies.—The opportunity to buy the celebrated Split Hickory Buggies direct from the factory is open to our readers. The season is here for using pleasure vehicles, and the longer their purchase is postponed the less opportunity one has for getting the full benefit of the season's enjoyment out of them. The Split Hickory line of vehicles is sold only direct to the user at the wholesale price, not being on sale at any store, nor is it handled by any jobber or dealer. The Ohio Carriage Mfg. Co., Station 37, Cincinnati, Ohio, sole makers of Split Hickory vehicles, is a highly reputable firm with a record of years of honesty and success as makers and sellers of high class vehicles at moderate prices. Their offer to sell their goods on thirty days' free trial is bona fide and certainly very liberal. It enables the intending purchaser to see and try just what he intends to buy. A postal card or letter addressed to them at Cincinnati will secure their valuable new catalogue, containing all the latest things on four wheels, for people who like stylish, long-wearing and well-built buggies and vehicles. Send for it before you forget it, and mention the P. F. when you send.

The American Cream Separator.—We are showing herewith a cut of the American Cream Separator, manufactured by the company whose name it bears, Box 1050, Bainbridge, N. Y. It is a clean skimmer, runs easily and is durably made, and these are the essentials of all good separators. As to the simplicity, it is conclusive of the whole matter to say that there is no complaint coming from purchasers, and there are a good many thousand of them, and the list steadily grows. The price at which the American is sold makes it profitable for the dairyman to purchase who only has a few cows. The American is sold on test of its merits. You receive, examine and test thoroughly at your own home and are under no obligations to buy, but return at manufacturer's expense if it should prove unsatisfactory. Mention the P. F. when writing.



Wire for Fencing.—During the year 1896 The Frost Wire Fence Co., of Cleveland, Ohio, was organized (the stockholders having had many years' experience in the manufacture and selling of wire fencing) for the purpose of producing and furnishing the American farmer, or user of wire fencing, with an article that would give entire satisfaction. This has been accomplished by them by the invention of machinery for the production of the genuine coiled spring wire, containing twice the strength of soft or even gauge, and fully providing for expansion and contraction. Also for the production of heavy hard spring stays for supports and metal bindings to unite wires at crossings in a cheap and practical manner. Their success ahs been phenomenal. It now requires thousands of tons of hard spring wire annually to supply the demand for the Frost Fence. We call our readers' attention to their advertisement in this week's publication, and would suggest that you request them to mail you a copy of their "1903" catalogue, describing the Frost Fence, Coiled Spring Wire and Steel Gates. Mention the P. F. when writing.

Our Barter Column.

Advertisements will be received for this column from our yearly subscribers only. Only advertisements of farms for sale, articles for exchange, help wanted, positions wanted, etc., will be received. Charge 1 cent per word for each insertion. No advertisements of less than 25 words or more than 10 agate lines will be admitted to the column. This column will appear each alternate week.

☞ **Special Notice.** The farms advertised in this column must be the farm of the advertiser, and not placed in his hands by another person for sale or exchange. No advertisements from Real Estate Agents will be accepted for this column; they must go in our regular advertising columns at regular rates.

Want a good practical man for general farm work; one good with horses. Would pay $25.00 per month and board. J. L. MORAN, Hazel Hurst, Pa.

Victor Feed Grinder and Cob Crusher, horse power, for sale or exchange; good as new. Half price. Will grind fine or coarse. Write T. J. COURT, R. F. D. 4, Richwood, Ohio.

Farm for Sale. 58 acres, 28 in cultivation. New two-story house, other necessary buildings. 4½ miles from Thayer, in Oregon Co., Mo. A bargain. Address H. ARNDT, Hardy, Ark.

152-Acre Farm for Sale. Good improvements; lots of fruit. Wheat and oats main crop. 2½ miles west of Perry the county seat. Price $8200.00 or $7400.00 August 1st. CHAS. BOYLAN, Perry, Okla.

Sweet Potato Plants. Leading varieties, including the splendid New Vineless. Would exchange at rate of $2.50 per thousand for Black Spanish fowls, pheasants, wild geese, wild turkeys or eggs. T. G. BROSIUS, Tiffin, Ohio.

Farm of 49 acres for sale or rent in best trucking section of Maryland; two-story house 5 rooms and outbuildings; abundance of fruit; apples, pears, peaches, plums, cherries, grapes. 3 miles from incorporated town, both church and school in sight. Price, $700. If rented, $60 for 1903; terms easy. For particulars address LOUIS M. CARR, Williamsburg, Maryland.

A Fruit Farm of 80 acres, about 125 bearing apples, 75 peach bearing, 1,400 young apples trees, 1,800 budded peach, just set. A good 8-room house. Drilled well of freestone water at door. Spring short distance. 65 acres in cultivation in the best apple section in the world. Home of the Black Ben Davis and Champion Red. Apples often yield $100 to $200 per acre. Peaches equally as well. L. A. COBLENTZ, Lincoln, Ark.

A Perfect Woven Fence No short wire ends to injury of stock. Heights 18—24 and up to 54 inches. Free catalog. CUYAHOGA WIRE AND FENCE CO., Cuyahoga Falls, Ohio.

GEM FULL CIRCLE STEEL BALER Lightest, Strongest, Cheapest. GEO. ERTEL CO., QUINCY, ILL.

Scientific Grinding Mills grind corn the ear or in grain in any form. Strong, exact, reliable. Catalog Q mailed free. FOOS MFG. CO., Springfield, Ohio.

HIGH CARBON COILED SPRING STEEL WIRE **FENCE** CATALOGUE FREE. INDIANA STEEL & WIRE CO. BOX 612, MUNCIE, INDIANA.

BEATS WOOD ALL HOLLOW. FROST BEST CHEAPEST
Frost Steel Gates from $1.75 up. Cheaper than a wood gate. Besides making the best heavy weight fence, we also make the best gate for the money on the market. Write and find out.
The Frost Wire Fence Co., Cleveland, O.

ALL STEEL LAWN FENCE Cheap as Wood
We make Wire and Wrought Iron Lawn Fence, Cemetery & Farm Fence, and we sell direct to the user at wholesale prices. Buy direct from us Save Agents Commission. Write for FREE CATALOG
UP-TO-DATE M'F'G CO. 965 North 10th St., Terre Haute, Ind.

Tuttle's American Condition Powders A specific for impure blood and all diseases arising therefrom. DR. S. A. TUTTLE, 28 Beverly St., Boston, Mass.

Large English Berkshire Swine. Imported boars at head of herd. Prices defy competition. Send for catalogue for 1902. N. S. Burrier, R. F. D. No. 23, Frederick, Md.

IT MAKES COWS BREED. BOOK FREE. MOORE BROS. Veterinary Surgeons. ALBANY, NEW YORK.

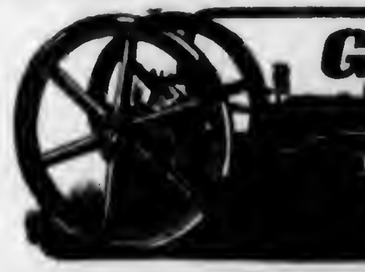
STOCKMENS SUPPLIES
Sheep Dips, Tanks, Worm Cures, Ear Marks, Punches, Tattoo Markers, Shearing Machines, Shears, Sheep Marking Paint, Lamb Feeders, Lice Paint, Poultry Supplies, Veterinary Remedies, etc. Write for Catalogue AT.
F. S. BURCH & CO., 144 Illinois St., CHICAGO.

ROSS ENSILAGE CUTTERS Furnished with BLOWER or CARRIER, as desired. GUARANTEED to be the BEST. E. W. Ross Co., Springfield, O. Send for Catalogue No. 43. SEND 10c for Prof. Wolf's Book on Silage.

"SAVE-THE-HORSE" TRADE MARK **SPAVIN CURE**

POSITIVELY AND PERMANENTLY CURES Bone and Bog Spavin, Ringbone, (except low Ringbone) Curb, Thoroughpin, Splint, Capped Hock, Shoe Boil, Wind Puff, Weak and Sprained Tendons and all Lameness.
FROM A REPUTABLE AND NOTED TRAINER.
Glenville Driving Park, Cleveland, Ohio.
For the inclosed $5 please send me one more bottle of "Save-the Horse." IT IS DOING GREAT WORK.
MILLARD F. SANDERS.
Hartland, Mich.
Find inclosed money order for $5, for which send me another bottle of "Save-the-Horse" spavin cure, as it has done all you claim for it for me. With the bottle I bought of you I took off a curb, spavin and side bone on a three-year-old mare that other spavin cures refused to help in the least. I consider your spavin cure the best on the market. E. M. PARSHALL.
Edgewater, N. J.
Inclosed check for $5, for which you will kindly send me by Wells-Fargo Express one bottle of "Save-the-Horse" soon as possible. The horse I have been treating with "Save-the-Horse" went sound and I sold him, and the last I heard from this horse he was still going sound and working every day, and I think he will stay sound. The bottle I am ordering now I will use on another horse that has a pair of spavins and a curb; he walks on his toes, but I think "Save-the-Horse" will bring him around so that he will walk all right. OTTO MEYER.
The fire iron is most uncertain; blistering is less effective than the fire iron, and both necessitate laying up the horse from four weeks to two months and longer. Arsenic, mercurial and poisonous compounds produce irreparable injury.
"Save-the-Horse" eliminates all these factors.
Horses can be worked continuously.
It can be applied at any time, anywhere, any place, and in all conditions and extremes of weather—hot or cold. And no matter what the age, condition or development of the case or previous failures in treating, the concentrated, penetrating, absorbing power of this remedy is unfailing.
"Save-the-Horse" cures without scar, blemish or loss of hair.
Contains no arsenic, corrosive sublimate or other form of mercury or any ingredient that can injure the horse.
$5 PER BOTTLE.
Written guarantee with every bottle. Constructed solely to satisfy and protect you fully. Need of second bottle is almost improbable, except in rarest cases. $5 per bottle at all druggists and dealers, or sent direct, express prepaid, by the manufacturers.
TROY CHEMICAL CO., TROY, N. Y.

The Agricultural Drain Tile made by JOHN H. JACKSON, ALBANY, N. Y., are the very best that long experience, thorough equipment and superior clay will produce. Tile drained land is the earliest, easiest worked and most productive. Make also Sewer Pipe, Chimney Tops, Red and Fire Brick, Oven Tile and Supply Mortar Colors, Cement, Plaster, Lime, etc. Write for what you want. 48 Third Ave. ROUND TILE


GEMMER Gas and Gasoline Engines ARE BUILT FOR SERVICE
Perfectly reliable. Guaranteed for two years. Simple, strong construction. Every ounce of fuel does work. Costs less than one cent per H. P. per hour to run. Economy and ease of operation unexcelled. Ask your dealer or write for Free Catalogue that tells more about it.
GEMMER ENGINE & MFG. CO., 1703 Park St., Marion, Ind.

ARMOUR'S BLOOD MEAL Cures Scours in Calves.
First proved by the Kansas Agricultural Experiment Station, and since corroborated by thousands of leading stockmen who have used it without a single failure. Equally effective for the diarrhea of all animals.
PREVENTS weak bones, paralysis of the hind legs and "thumps" in pigs; "big head" of foals; "rickets" of all young animals; abortion due to incomplete nutrition, and a host of other troubles.
A Potent Food for Work Horses, Dairy Cows, Poultry.
Write us for booklet giving valuable information about Blood Meal and our other feeding products. Consult us free of charge regarding stock diseases.
THE ARMOUR FERTILIZER WORKS,
Chicago. Omaha. Baltimore. Atlanta. Jacksonville.

FENCE! STRONGEST MADE. Bull Strong, Chicken-Tight. Sold to the Farmer at Wholesale Prices. Fully Warranted. Catalog Free. COILED SPRING FENCE CO. Box 111, Winchester, Indiana, U. S. A.

MAKE MONEY pulling stumps, grubs, etc., and clearing land for yourself and others. Hercules Stump Puller is the best. Catalog FREE. Hercules Mfg. Co., Dept. 25, Centerville, Ia.

Registered P. China, Berkshires & C. Whites, 8 wks to 6 mo.; mated; not akin; service Boars; Bred Sows. Write for prices and description. We refund the money and have them returned if not satisfied. Hamilton & Co., Ercildoun, Chester Co., Pa.

Large Scales and a Small Space But it's enough if you think of buying one and send for Osgood's Free Catalogue. That will tell you our whole story of High Grade. Built on honor. Prices right. 30 days trial. OSGOOD SCALE CO., 127 Central St., Binghamton, N. Y.

Special Hog Fence. Compact weave of strong wires into small meshing. Non sagging, great strength. 24 in. high. Stretching wires above converts into all purpose fence. Full line wire specialties. Liberal terms to agents. Write for information. WIRE SPECIALTY CO., Dept. C, Akron, O.

50000 FARMERS Now use Duplex Machines, making Fence Horse-high, Bull-strong, Pig and Chicken-tight at ACTUAL COST OF WIRE and save profit fence manufacturers extort. Why don't you! Machine on Trial. Catalog free. Kitselman Bros. Box D49, Muncie, Ind.

FREE TO THE FARMER OUR 200-PAGE BOOK Treating on All Diseases of Live Stock. Send us your address and receive one FREE by return mail. We want a good agent in every county. Write us for terms, etc. LIVE STOCK REMEDY CO., Fort Wayne, Indiana.

Barbed & Smooth Wire Write for our prices on 2 and 4 point Barbed Wire, painted and galvanized; also, 65,000 pounds **Smooth Galvanized Wire Shorts** Gauges, 10, 11, 12, 13 and 14; Prices from $1.50 to $1.75 per hundred. Write for Catalogue No. 224 CHICAGO HOUSE WRECKING CO. West 35th and Iron Sts., CHICAGO.

PAGE **A Pretty Good Test!** Unroll a roll of Page Fence, and let go. See the spring in the wire roll it up again. PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH. OR GEORGE W. DORAN, EASTERN AGENT, ARDMORE, PA.

BARB WIRE and WIRE NAILS at special low prices for 30 days. We ship from New Haven, Ct., or Pittsburg, Pa. "Eagle" Barb Wire will measure 148 rods to 100 pounds or 220 pounds to one mile. Farmers and Contractors can save money on all kinds and sizes of wire and nails. Write your wants to get close-to-cost delivered prices. CASE BROS., Colchester, Conn.

THE STAY THAT STAYS Where it is Intended to stay. Testimonials by T. B. Terry, Hudson, Ohio, and others. Eureka Diagonal Stay Fence Co. LEBANON, INDIANA. Stays No. 9 Wire No. 9 Line Wires
Fence Shipped in the roll if preferred. Prices reasonable, quality considered.

BROWN **16 to 35 Cents Per Rod.** Heaviest, strongest, most durable fence made. All wires extra large. We sell to Farmers at Wholesale Prices. Coiled Spring, Barb and Soft Galvanized Wire. Write for catalogue. The Brown Fence & Wire Co. 23 Bosen St., Cleveland, O.

Write for a catalogue of our new diamond mesh, woven steel wire fence. The best form of farm fence for all-round use. **KOKOMO Steel Farm Fences** Examine it at your dealer's. You buy it without risk. It is guaranteed. Kokomo Steel & Wire Co. 31 North Street, Kokomo, Ind.

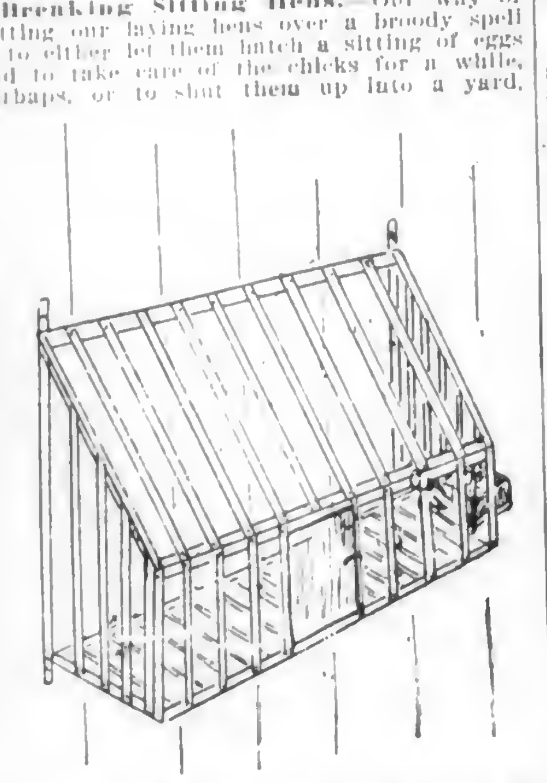
SHORT CUTS.

BY PRACTICAL FARMER SUBS.

All other trades have resorted to "Short Cuts." To be successful farmers must resort to them, too. In this column we will publish all actual labor saving short cuts made by the farmer on the farm and the housewife in the home. Write and tell us of any labor saving tool you have made, of any method of management or manner of using implements to save time, labor and money, or increase their efficiency. Even the smallest things may be useful and valuable. Hints and helps in the household are always welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Write on postal cards and make articles short. All errors will be corrected by the editor. Address all communications under this head to T. Greiner, La Salle, N. Y.

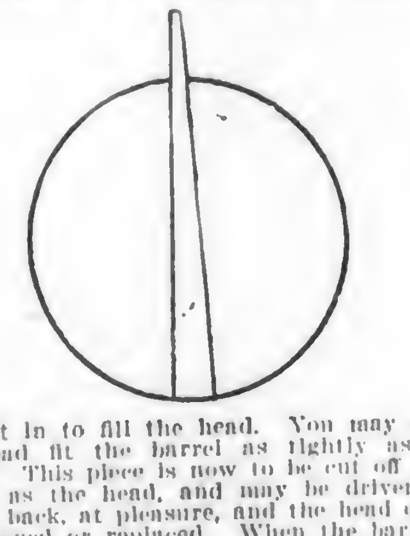
To Soften Grindstones.—To soften a hard grindstone bury it in the ground for one year and the earth's action on the stone will make it as good as the best soft stone on the market. We are using one now that has been softened this way.
Accord, Mass. WILBUR LINCOLN.

Breaking Sitting Hens.—Our way of getting our laying hens over a broody spell is to either let them hatch a sitting of eggs and to take care of the chicks for a while, perhaps, or to shut them up into a yard, enclosed with a high fence, where they can have feed, water, shade, etc., and turn their minds back to laying. If you have no yard for the purpose, arrange a coop somewhat like the one here shown (illustration adapted from Am. Agriculturist). The hens will get over their desire to sit in two or three days' time, and soon go to laying again. SUB.



Care of Disk Harrow.—My disk harrow is sharpened by turning it bottom side up and filing disks. In buying a file for sharpening steel plow coulters and disks I get a mill file. Bastard files are for soft iron. To prevent a disk harrow from clogging I took pieces of pine 2x4 one foot long, and fastened them between the disks with pieces of 1½-inch iron barrel hoops. Put the hoop iron loosely around the axle and bolt through the 2x4 flatwise with ¼-inch bolts. I use machine castor oil for all machinery; thin it in cool weather with kerosene; color with ivory black for harness. F. AMES.
R 31, Deerfield, Wis.

Short Cut Barrel Head. — A movable head, for fruit barrels, potatoes, etc., may be made as shown in the figure below. Have the two sides of the head made narrower than the diameter of the barrel, so as to leave a space between them, after they are set in place in the barrel. This space should be an inch and a half wide at widest end, tapering to an inch at the other. Cut a sloping piece to fill the space, but have it longer than diameter of barrel. Cut off a little of the staves where the narrow piece is to cross, and drive it in to fill the head. You may make the head fit the barrel as tightly as you please. This piece is now to be cut off same length as the head, and may be driven out or put back, at pleasure, and the head quickly removed or replaced. When the barrel is filled ready for shipment, it will only be necessary to fasten the strip to the staves with nails. It will not come out in transit.
Spottsville, Va. B. W. J.



To Clean White Kid Gloves.—Place the glove on the hand, and with a sponge or flannel cloth rub lightly and evenly with benzine, allowing the glove to dry on the hand. Then pin up in the sun for half an hour. Take down and apply soapstone (powdered) or glove powder, both outside and inside the glove. Rub well on the outside, and if you follow the directions you will be surprised at the results.
R 4, Utica, O. ORRA MCFARLAND.

Cheap Hotbed. Make your sash to fit the bed frame; 1½x2 inch lumber will do. Purchase some good quality bleached muslin; cut this 4 inches larger than sash, then tack to sash very firmly and stretch from all sides after completed. Mix three pounds of white lead with one-half gallon of raw linseed oil; paint the cloth with this and allow to dry. Your cloth is then water-proof, and with good bottom heat makes a cheap and serviceable bed to raise young plants.
Montour Falls, N. Y. M. BOWER.

Recutting Files.—Take four ounces of common baking soda, dissolve it in enough boiling water to cover the files; boil one-half hour, take out and dry thoroughly; place in a jar of rain water, add four ounces of sulphuric acid, put in the files; let remain from 8 to 12 hours. Remove and rub dry and put on them a little sweet oil. Cover solution tightly and label "Poison." This can be used several times and is all right for recutting old files. Try it. WILL SHELTON.
R 1, Sherman, Tex.

A Good Apron for Wash Day.—Take black rubber sheeting, one yard; cut into four equal parts. Thus you get four small aprons. Bind the top and put on belt. Put on over apron on wash day, also when washing dishes keeps the dress tidy. Being short it clears the stove. Also mats cut from the black rubber cloth are good to put on table under the cold water pitcher. Small ones from white sheeting or black rubber for stand, mantle or piano. You can pink the edge or punch holes for ribbon.
Bristol, Conn. MRS. H. J. CULVER.

Stairway Without Railing.—To make a stairway safe where there is no room for a railing, measure a 1 inch rope to fit right-hand side of stairway, if possible, leaving enough to hang loose, and ends long enough to pass through rings, and wind with strong linen thread or fine twine. Then drive staples through rings at top and bottom of stairway. It is astonishing how much help and comfort this will give in going up and down stairs.
Danbury, Conn. S. E. KELLOGG.

In the Household.—Move every unnecessary piece of bedding and clothing from the sleeping rooms and use insect powder in the beds and around the sides and in the corners under the beds, and watch for dead bed bugs. If the elbow of your stovepipe slips down and draws the pipe from the chimney, get a piece of hay wire about a foot long, with the eye on, and bend the wire so the long piece will be inside and the eye outside of pipe; now put the elbow on and it will rest on the eye and between the two wires and hold it up. EDITH TREVASTON.
Nederland, Colo.

Bread Making Hints.—If your bread is being baked too soon, put a pan of cold water on the upper grate of the oven. If the crust has been blackened do not attempt to cut it off with a knife, but as soon as the loaves are cold, go over them with a coarse grater.
Chicago, Ill. M. DANIELS.

Foot Warmers.—A subscriber recently advised a lighted lantern as a foot warmer. This seems dangerous, especially for women, whose skirts might easily upset it. For fifty cents, or less, one can buy a soapstone with a handle. Make a case of denim lined with felt. Shape it like an envelope, open at one end, and make it loose enough for the stone, wrapped in paper, to slip in easily. Thus encased the stone will keep warm for hours on the coldest day. The case should have a handle to carry it by and the flap should tie or button. Before going out heat the stone well. R. P. HANDY.
Berlin, Md.

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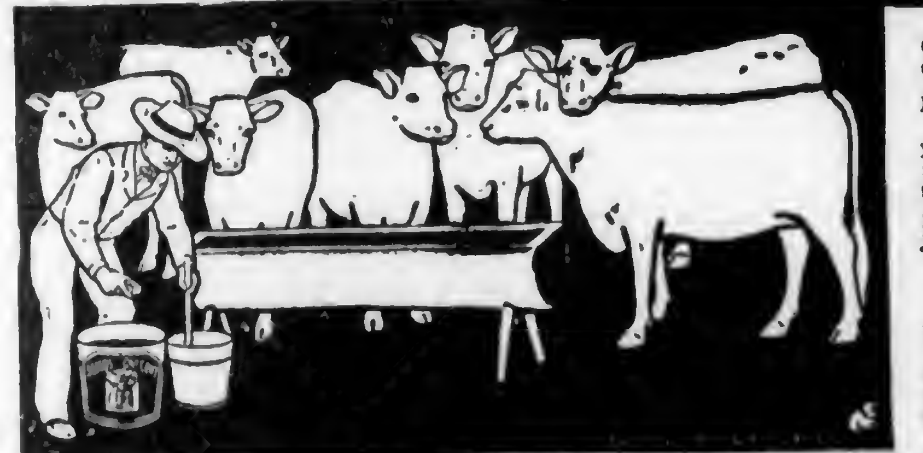

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Mistakes, Failures and Successes.

In this department we publish the Mistakes, Failures and Successes of our subscribers. They are equaly instructive and necessary, pointing the way to success. Subscribers are cordially invited to send accounts of efforts they have made which resulted in failure, as well as those which proved successful. Give in a few words your experience of anything connected with farm or household work. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Only helpful communications of value to P. F. readers will be accepted. The head of the column will be considered the position of honor each week. Send all communications to Geo. T Pettit, Oneida, Kan.

Mistake in Not Caring for Rotten Straw.—I'm almost ashamed to confess it, yet it is true. Until within the last two or three years I neglected to use old rotten straw, except for bedding for stock or perhaps to stop gullies, but would clean off my stack yard every summer, by throwing back the old straw there to let it lie to become scattered over the lot again. (I have my wheat threshed at the barn.) But, by lucky chance, I was solicited to subscribe for the P. F., which I did. Since then I have found use for it. I will tell some of the uses, with results: I cover a small patch of Irish potatoes each year, which stand drought better and give better yield than same size patch not covered. I broadcast and turn under for corn, some still more nearly rotten, with same results as that on the potatoes, viz., greater yield and corn withstands drought better. That part most nearly rotten I use in the drill in cotton rows, putting phosphate on top, which I think paid me well. Cotton thus treated grew faster in dry weather and no slower in wet weather than that not so treated. I want to add that very little manure gets mixed among this straw, even though near the barn, for the stack yard and barn are not enclosed. There is humus in rotten wheat straw, if not much fertility, and the majority of us Southern farmers need humus in our soils. Let us take care of all decaying and decayed vegetable matter.
Lincolnton, N. C. R. B. SULLIVAN.

Trashy Advertisements.—What a lot of questionable advertising of the "get rich quick" class, alluring fake and medical advertisements, are published in the cheap, trashy papers of today. We certainly make a great mistake by permitting these papers in our homes for the children to read. A neighbor's son has a mania for answering all sorts of advertisements and sending small sums, from a stamp to 10 cents, and more, for catchpenny traps. In this way he spends every cent he gets. Small amounts do not seem much at the time, but figure into dollars in a few months. I have urged him to save his money, and just to show what he is spending, had him keep an account for a month, which shows postage alone to the amount of over a dollar, and a total of several dollars. He probably spent more but was ashamed to let me know of it. This boy's mail, mostly circulars, papers and cheap trash, is the largest that comes to the postoffice, and he eagerly awaits every mail. No knowing where it may lead, but it has all been brought about by reading the cheap, trashy papers. It is a relief to find no questionable advertisements in the columns of the P. F. WM. C. AIKEN.
Angwin, Cal.

Success with Pigs.—Having a litter of pigs last fall, I thought I would see if there was anything to be made in buying grain to raise them on, so we put two of them in a pen alone when five weeks old and fed them on best middlings, scalded, and raw sweet apples, all they would eat, until they had eaten 100 pounds of middlings. Then we fed half corn meal until December 12th, when we dressed them off. They were 121 days old. One weighed 104, the other 109 pounds. They had eaten 273 pounds of middlings at a cost of $3.69, and 168½ pounds of corn meal at a cost of $2.44, which makes $15.97 worth of pork at a cost of $6.13 for feed, besides a few apples that would have rotted, and the skimmilk from one cow after selling two and a half quarts a day and furnishing a family of four. I think this shows a fair profit, but I am going to try again this spring and see if I can do as well again, and to be sure if it can be made to pay right along. E. N. CROSSSETT.
South Ackworth, N. H.

Tomato Culture.—To raise good, healthy plants in house, sow seed in boxes, not too thickly, and cover with soil one-quarter inch deep; leaf mould is best, and use no fertilizer or manure, as it will cause young plants to decay just underneath top of soil. Cover with damp cloth, water through cloth; keep damp and warm until plants are up; remove to cooler place and give plenty sunshine and air. Transplant several times to make plants stalky and hardy; transplant to garden when 8 or 10 inches high, and protect from frost and excessive sunshine till well started to grow. We always hoe the young plants, but when about 18 or 20 inches high we plow well around them, after which we mulch them heavily (12 or 15 inches deep) with straw. We never use a frame or support of any kind, and always have an abundance of tomatoes. In due season I wish to write and tell our method of canning tomatoes, which always keep and remain firm and solid. CORA E. SAUFLEY.
R 33, Port Republic, Va.

Success with Pumpkins.—I have always received the best returns in raising pumpkins by planting in corn in the following manner: I manure several acres of ground well, plow it a good depth, harrow and work it up fine. When ready to plant to corn I place largest plate on one side of planter. I thoroughly mix a double handful of pumpkin seeds with the corn every time I fill box on that side of the planter. This gives two rows of pumpkins in every four rows of corn. When ready to gather in the fall I make down row about every sixteen rows in corn. Break the stems by a blow from pitchfork and pitch in wagon. Have raised several wagon loads, all a team could draw, on an acre of ground, along with usual yield of corn. They are fine feed for hogs and cows in fall of year. JAS. A. GILLETTE.
Burchinal, Ia.

Pays to Have a Feed Cutter. — Referring to the suggestion made by Mr. Harry Boll, Stony Brook, Pa., in your issue of March 21st, for the use of corn stalks, would say I have, during the past winter, cut in inch lengths all of my stalks, as well as straw used for bedding, and my manure this spring is the best I have ever had. The cows will eat more of the fodder if cut, and what they do refuse to eat proves a better absorbent, besides making the manure much easier to handle. I find it pays to have a feed cutter. E. F. CRIST.
Armor, N. Y.

Stacking Corn Fodder.—Several years ago I stacked my corn fodder in a long rectangular stack, and when I wanted to remove a bundle I would have to pull six or eight off or apart. Now I stack all my corn fodder around a pole, with the tops in the centre. When ready to use I begin at the top and work downward and by this method I can remove one or more bundles without tearing them apart. A. J. STUTZMAN.
Bristol, Ind.

More About Runts.—In the P. F. of March 14th, Mr. S. A. Dyke asks for experience with runts, and as I have at different times raised fine hogs from runts, will give my experience. A few years ago a neighbor gave me a pair of orphaned little runts, which I raised to 300-pounders long before that neighbor had his pigs of same age ready for market. They were fed all the skimmilk they cared for (sweet at first) five times a day, but never so much that they left any till next feed. Gradually a little scalded bran and meal was added to the milk, and they had an ear of hard corn occasionally, besides all the pigweeds and charcoal (made of wood or cobs) that they wanted. They were shifted around in their movable pen and had either rock salt before them or their food salted, and fresh drinking water between meals. They were finally fattened with corn, beginning with roasting ears. But if you want to make a "hog" out of a runt, pen him by himself and coax him, but don't have food before him all the time. Runts do well enough together, but never along with thrifty pigs, and are liable to be dear pork.
Havana, Neb. FREDERICA GREVE.

My Success with Potatoes. — Never having much luck with potatoes, I thought I would try a new plan last year. Instead of planting the old seed grown and bought here, I sent off to Michigan for twenty varieties, one peck of each kind. When they arrived I gave one-half of each variety to a neighbor so we could see which would do the best with them. I planted mine carefully, cutting to two and more eyes, worked them thoroughly, not letting any weeds get a start, nor the bugs either. I used stable manure; no fertilizers. In the fall I had the finest crop I ever saw. I had over twenty barrels. I exhibited some of them at two of our county fairs, and received thirty-six first prizes and thirteen seconds, amounting to over $38. There was lots of competition, too. One important point I gained was to find what kinds do the best in our soil; there was quite a difference, and it was very interesting to watch them grow. My neighbor did not succeed so well with his. He failed to get them planted in time, and could not give the proper cultivation, but is satisfied the seed is better than the old kind grown here.
New City, N. Y. JNO. C. SCHMERSAHL.

Flowers Preferable to Weeds.—When we first moved to the farm that we now own, there grew under one of the parlor windows, to my great annoyance, a detestable patch of burdocks, nettles and wild raspberry briars. One day in the autumn I took a potato hook and an old ax and dug and chopped out every root and mellowed up the soil to about a foot in depth. Then husband spread on a thick coat of horse manure. The following spring I sowed and planted it all to flower seeds and bulbs, which grew rapidly and have produced a wealth of beauty every season since. Of course, a little time has to be spent every spring to keep out the weeds; but that amounts to but little compared to the improvement. MRS. J. B. LUCE.
Cherry Creek, N. Y.

Worked While Others Loafed. — In reading about successes and failures I have in mind a cousin of my wife, whom I visited last summer when the weather was very wet. Corn fields were weedy and grassy; some fields were about past redemption. It was impossible to plow corn, so what could farmers do but go to the postoffice and blacksmith shop and pitch horseshoes and complain about the weather? This man was in his corn field with a hoe; he was in good spirits about his crop, said it could stand another week of bad weather and not hurt it, and it was so, for his corn was clean and looked well. Well, I thought, why don't his neighbors do as he did and save their corn instead of pitching horseshoes? I suppose they were too progressive. They did not use the hoe any more in the corn field. This man uses the hoe in fence corners, too. You can guess the result. Some of his neighbors are making money (?) by selling him manure at 25 cents a load. If you had seen his wheat field you would have thought he was making money by buying it at 25 cents a load. He has a nice little home, fairly well fixed, and he made the first dollar to buy it with. He is in better shape today to buy 120 acres than he was when he bought the 60 acres he now owns. Many other young men have as good a chance as he had; why don't they take it? Too much "don't care;" too much of pleasure loving and not enough of farm studying.
No address. E. N. VINCENT.

Success with Clover.—I wish to tell the readers of P. F. how I succeed in getting a stand of clover, when and where I choose. I take a field on which I have grown corn or potatoes the year before. As soon in the spring as the frost is all out and the ground well settled, I take my team and spring-tooth harrow and go over the field the opposite way from which it was last cultivated, and follow up with the grass seeder, sowing three quarts of good clover seed per acre. Then I hitch to my weeder (a hay rake will do) and run once over the field. I put no other crop on the ground with the clover. I give a very light top dressing of well rotted manure if I have it; if not, I get the clover just the same. In this way the ground is in just the condition necessary to success. A fine, shallow seed bed with solid, moist earth below to withstand the drought which otherwise dries out the soil and causes failure. If weeds grow up late in the season I clip them with the mowing machine. I have never failed in this way. ERASTUS MURPHY.
Berrien Centre, Mich.

Success Handling Manure.—Not having room to house all the manure in winter, I built a small shed on side of barn to put it in in stormy weather or when it is soft wheeling. But in good weather I haul direct from stable to field and I find this a great improvement over throwing it out doors in a heap. Anyone can afford to build a shed large enough to hold what accumulates in stormy weather, and the sooner I get it spread on the land, the more benefit I get from it. J. A. SAUNDERS.
Niantic, R. I.

Keep Stock Away from Implements.—By allowing cattle to occupy part of a shed where implements were kept, the handles were broken off of a cultivator and one of our cows got her head fast in a hay rake wheel in such a manner that the wheel had to be taken off of the axle. When the wheel was removed, the cow jerked away and ran with the wheel on her neck and got her forelegs fast between the spokes, checking one of them and narrowly escaping breaking her legs or neck. We now keep stock and implements separate. ROLLIN BLACKMAN.
Albion, Ind.

Keeping Pigs Separate.—Few people realize the value of keeping pigs separate. I have been very successful in keeping pigs alone. If possible, I do not allow more than one pig in a stall. I have a stable twenty-five feet long, with an entry all the way through. I have my stalls about four feet wide and six feet long, which is sufficient floor space for one pig. I have learned by experience that it will take less feed and a shorter time to raise pigs by this method. Readers of the P. F., you can save at least twenty per cent. of your feed and you will have your pigs two months earlier for the market, by keeping them separate. It will cost only a few dollars more to build a pig stable in small divisions, and it will only take a few minutes longer to feed. It will pay any farmer to keep his pig stable warm and clean. Nothing is too good for pigs. Farmers ought to pay more attention to this industry. The cold and dirty pig pens should be a thing of the past.
Wehr, Pa. F. F. FRANTZ.

Growing Old
Ought not to mean growing weak and feeble. It does not mean weakness or feebleness for those who eat with good appetite and sound digestion. It is of the utmost importance that old people should retain the power to digest and assimilate food which is the sole source of physical strength. When age brings feebleness it is generally because of the failure to assimilate the nutrition contained in food.
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"It is with gratitude we acknowledge what Dr. Pierce's medicine has done for grandmother's good, in fact it has cured her," writes Miss Carrie Ranker, of Perrysburg, Ohio. "She had doctored with several physicians but found no relief until Dr. Pierce advised her what to do. She has taken only three bottles of 'Golden Medical Discovery' and is entirely well. She suffered with pain in kidneys, bladder and liver for ten years, and her limbs were swelled with dropsy so bad she could hardly walk. My grandmother's name is Mrs. Caroline Hennen, her age is 71 years. I will gladly answer all letters of inquiry."
Sick people are invited to consult Dr. R. V. Pierce by letter, *free*. All correspondence is held as strictly private and sacredly confidential.
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With its patent Fly Wheel, simple, accurate Knotter and famous Lever Device, the Plano Binder handles the heaviest crops with ease.
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THE COMPANY

The James Dunlap Carpet Company, 56th Street and Lancaster Avenue, Philadelphia, is incorporated under the laws of the State of Pennsylvania, with an authorized capital of one million dollars, divided into ten thousand shares of $100 each. The shares are full-paid and non-assessable. There are no preferred shares. All shareholders, big and little, receiving the same percentage of profits.

The officers of this Company are: James Dunlap, President; William Davidson, Vice President; Joseph Hamilton, Secretary and Treasurer; and Ambrose Higgins, Esq., Counsel.

A WONDERFUL RECORD.

The Company was started nine years ago, and now manufactures and sells more than one million dollars' worth of carpets a year. Most of the business is with the very largest and best department stores in New York, Chicago, Philadelphia, St. Louis, Boston, Baltimore, and all the best cities. No other customers are as desirable. By dealing so largely with these great houses this Company is enabled to get very large contracts many months in advance of the dates of shipment, thus enabling the Company to buy raw materials in great quantities and to the best advantage.

The growth of the business has been phenomenal.

In 1894	the business	was		$63,831
" 1895	"	"	"	181,639
" 1896	"	"	"	318,000
" 1897	"	"	"	322,000
" 1898	"	"	"	399,000
" 1899	"	"	"	651,000
" 1900	"	"	"	872,000
" 1901	"	"	"	1,036,000
" 1902	"	"	"	1,222,000

I hereby certify that the above figures are correct.
WALTER SCOTT.
Cashier of the Tenth National Bank and Treasurer of the Columbia Ave. Trust Co.

And the net profits on this business have averaged 25 per cent. on the money invested.

A MAGNIFICENT PLANT.

The Company pays no rent. It has paid $205,061 for ground and buildings. Most of the buildings are one story, with skylights. This arrangement affords the air and light essential to the maximum efficiency on the part of the employees.

The Company owns patents on a number of exceedingly valuable labor-saving devices, which are not in use in any other factory in the world. This is one of the many reasons why the Company is now earning 25 per cent. per annum. A number of these inventions were made by President Dunlap.

In addition to the real estate, the Company has machinery which cost $216,000, and thousands of dollars' worth of carpets and raw materials are at all times kept on hand. EVERY DOLLAR INVESTED IS SECURED BY A FULL DOLLAR'S WORTH OF ACTUAL TANGIBLE ASSETS.

THE COMPANY'S PLANS.

A few weeks ago the Company placed 5,000 shares of its treasury stock on the market. Shares are sold at their par value of $100 each. There is no discount for all cash down. The purpose of selling this stock is to immediately purchase three additional plants on which the Company now holds valuable options. Two of these are large money-making carpet mills, the other is a complete spinning plant. By consolidating these plants with the present large mill, the expense of manufacturing and marketing the goods will greatly diminish and the net profits of the business will increase proportionately. A great many shares have been sold to Philadelphia capitalists, but the Company has decided to reserve 2,000 shares to be sold exclusively to investors throughout the country. A portion of the 2,000 shares is offered to the readers of each of several leading magazines. You will, therefore have to send in your subscription without delay in order to be sure of your share. It is hardly necessary to explain that the object in selling to a large number of small investors is to have thousands of people interested in and talking about Dunlap carpets. No other advertising costs so little and is worth so much. Every stockholder is likely to buy Dunlap carpets and rugs and to advise his friends to do so. To let all of the shares go to Philadelphia capitalists would be much easier and quicker (involving comparatively little bookkeeping) but, under the circumstances, it would not be good business to do so.

WHY SHARES ARE SOLD.

Perhaps you ask, "Why does the Company sell shares? If it is making money, why doesn't it use the profits to buy the new mills?" This is easily answered. The Company has about $500,000 invested in buildings, machinery, etc. The net profits now average 25 per cent., or $125,000 a year. So you see, if it were possible to get the present shareholders to draw no dividends, and use all the profits for extending the business, it would take just four years to raise the $500,000 necessary for this consolidation of interests. By allowing the public to share in the business the Company can make the consolidation at once. Then, at the end of four years, they will not only have one of the largest carpet plants in the world, but will have made, even at the present rate of earnings, $500,000 ADDITIONAL PROFITS to be divided among the shareholders. That is the very good reason why you now have an opportunity of securing a share in this very profitable business.

$4,000 A DAY.

I wish every reader of this periodical who wants a share in this business could come to Philadelphia and go through the mill. You could then see the Company's real estate that is worth more than $200,000, the machinery that cost $216,000, and thousands of dollars' worth of carpets, rugs, and raw materials. You could see the 600 experienced carpet-makers turning out $4,000 worth of carpets and rugs daily. You could see various patented machines that are in use in no other factory in the world. You could see work done by rapid automatic machines which is done by hand in all other carpet factories. You could see the current orders, a list of the Company's customers, and any or all of the books, if you so desired. Everything is open and above board. But, of course, some of you are too far away, and some cannot spare the time to come. But if any of you can come, you will be welcome to make any investigation you wish. And, furthermore, if you do come, and find upon investigation that one word of this offer is untrue, I will pay the expense of your trip, and pay you for your time. That's fair, isn't it?

25 PER CENT. GUARANTEED INCREASE

$10 now, and $10 a month for nine months, buys a $100 share in this Company. If at the end of one year the $100 share is not worth at least $125 based on the price at which stock is then selling, I will refund all the money you have paid in with six per cent. interest added. If you should die before you have made all the payments, your heirs will be given the share without further cost. If you should be sick, or lose employment, you will not forfeit what you have paid. You take no risk.

10 Reasons Why You Should Invest $10.

1. Carpets are as staple as wheat.
2. This is not a "prospect" or a "maybe." It is a full-fledged business that has been making money—more every year—for nine years.
3. You can come or have a nearby friend or acquaintance come and go through the mill and make any kind of an investigation you desire.
4. Every dollar you invest will be secured by a full dollar's worth of actual, tangible assets.
5. The shares are full paid and non-assessable.
6. There are no preferred shares. All shareholders draw the same percentage and profit.
7. Your money will begin to share in the profits the minute it is received. You will be paid every three months a dividend of at least 3 per cent. Quarterly dividends of 3 per cent. (12 per cent. a year) are being paid regularly January 1st, April 1st, July 1st and October 1st.
8. You will share in the surplus, which is the difference between the 12 per cent. paid in dividends and the net earnings which now amount to 25 per cent., and which will greatly increase after the consolidation of the four mills.
9. You will share in the increase in the value of your share. This increase is bound to occur as soon as the mills are consolidated, and it will keep on increasing as the profits of the business increase. You are guaranteed a 25 per cent. increase the first year.
10. This offer is made to you through your favorite journal—one of the most reliable and substantial publications in the world.

Make Check, Draft or Money-Order Payable to Columbia Avenue Trust Company, Philadelphia, and Mail to

W. M. OSTRANDER,
Suite 1426, North American Bldg., Philadelphia

SEND COUPON AT ONCE.

As there are but a few hundred shares offered to over 200,000 readers of THE PRACTICAL FARMER, you can readily see that to be sure of getting your share you will have to act promptly. Send in **$10** at once, and be sure of your share. Then you can make any investigation you see fit, and if you find that this business is misrepresented in any way whatever, your **$10** will be promptly returned. Could any offer be fairer? Sit right down now and send **$10**. You will never regret it. It will be the best investment you ever made.

DO IT NOW

FILL OUT, CUT OUT, AND MAIL THIS COUPON NOW

W. M. Ostrander, Suite 1426, North American Building, Philadelphia. Enclosed find $10 as first payment for a share in the JAMES DUNLAP CARPET CO. I agree to pay the balance in nine monthly payments of $10 each.

Name ....

Address ....

....

WHY STOCKS ARE OFFERED TO THE PUBLIC. WHAT THE PRACTICAL FARMER SAYS:

HERE ARE COMMON QUESTIONS:

1st—Why is it necessary to offer any promising stock for general subscription?

2nd—Why do not local capitalists secure the entire issue of a stock which promises large profits?

3rd—Why is a company willing to dispose of any interest in an industry which is earning, or about to earn, large dividends?

These questions are familiar to every stock broker. They seem reasonable on their face yet, in fact, they are extremely unreasonable and illogical.

Would you ask your grocer, when he asks you to buy sugar or flour in anticipation of an advance, why he does not hold it himself, and make the profit?

Would you ask your coal dealer, when he advises you to lay in your Winter supply in Summer, because it is cheaper, why he does not hold it himself and make the profit?

Certainly not, for the very good and sufficient reason that neither would be likely to have sufficient capital for the purpose and, if the advice were not acted upon, neither you nor the dealer would be benefited.

Industrial stocks are offered to the general public when the individual, or the company, has not sufficient capital with which to operate.

It is a common mistake to suppose that wealthy people of any community—even the multi-millionaires—can at any time furnish unlimited funds.

Their money is at all times mostly invested and, no matter how good an opportunity may turn up, only a small percentage of them are ready to take advantage of it.

Only a few months ago the British Government came to New York City to raise $50,000,000 on a bond issue. These bonds are a good investment, yet the government came here for money. The bonds of a prosperous town or city may be gilt-edged, yet they are placed in outside money markets. The Pennsylvania Railroad is an excellent investment, yet not one-fifth of its stock is owned in Pennsylvania. The New York Central & Hudson River Railroad securities are as stable as government bonds, yet the recent inventory of the estate of Cornelius Vanderbilt showed that he owned less than one-fiftieth of its stock.

Standard Oil Company stock is selling at nearly $800 per share on the curb. It is not even a listed security, yet it paid 28 per cent. dividend last year, and John D. Rockefeller owns less than one-third of the stock of the company that he originated.

Stock was sold at the inception of these companies, and the thousands and tens of thousands of investors made the greatest share of the profits by becoming purchasers. Nothing of magnitude in local enterprises ever proves a success without the aid of outside capital.

Without this division of interest, through the medium of capitalization, there could be none of the colossal enterprises which now seem almost as essential to our welfare as the Government itself.

Read What the Publishers of This Paper say about This Proposition on page 318.

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THE KEYSTONE TO SUCCESSFUL FARMING

Published Weekly By
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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

Keep the Cultivator and Weeder Busy and Get Larger Crops.

Through the Northern States corn will be up, or soon to come up, when you read these lines. The yield of the crop will depend partly on how it is cared for from now on. Let me advise you a little about how to do. Start the cultivator just as soon as you can see to follow the rows, if the land is dry enough so the tramping of the horses will not do harm. Loosen up the ground and do it deeply. This will let the air into the soil. It will help about warming it up and making food ready for the crop. I would run the teeth pretty close to the rows. The roots have but just started at this time and you will do no harm, practically. To prevent covering the little plants use a shield, or very narrow teeth. These narrow teeth are not usually furnished with ordinary cultivators, but you can buy them extra, and they can be used generally on most any cultivator. The ones I used to think the most of were one and a quarter inches wide. My experience has been mostly with potatoes, but it is the same with corn. With these very narrow teeth I was not obliged to hold the horses in the first time through, so as not to cover the little plants. This made the teeth quite profitable, as a man could do more in a day and the horses could walk right along at their natural gait. Now, if your corn is in drills, there will be quite a strip along the rows that the cultivator does not stir. If it is in hills there will still be some. This ought to be loosened up, as well as the ground between the rows. The corn or potatoes would grow faster and weeds would be kept from starting. When I was a boy a hoe was used for this purpose. Some few use it now. It may be necessary on very stony or rough land. Some do not try to stir the ground in the rows, but many use weeders for this purpose now. They are a valuable tool; you should have one. After a field is cultivated this first time use it, letting the horse go between the rows, and hoe two nicely as fast as he can walk. You can readily go over 15 to 20 acres in a day with one weeder. There are larger ones on which you can ride and go over more ground in the same time, suitable perhaps for big prairie fields. Oh, yes, it will break off a spear of corn now and then, but the probabilities are that it needs thinning and will do all the better for it. Some plant a little thicker so as to allow for this. Then how much good it does to stir that ground around the plants. Where potatoes are put in three or four inches deep one need hardly destroy a single hill during the season. They do not break off readily. Corn is most apt to be broken off when it is wet. In a dry time one can continue the use of the weeder until it is a foot high, or more. Do not begin work in the morning until the dew is all dried off, or water from rain, if there was any.

Now you have got started using cultivator and weeder. Just keep at it, observing a few simple rules. Within five or six days I would cultivate again, and just as deeply as possible. Give the horses something to do. Tear the soil up to the very bottom of the plowed furrows. Smooth off and stir around the plants again with the weeder. Never let a weed get up to daylight. Kill them as the seeds sprout. Thorough work now will make it easier to keep the crop clean later on. It takes time and work, but bless you you will get better paid for the extra time than you do for half way work. After the first ten days do not cultivate more than about two inches deep. Let the roots grow across between the rows then, and they will quickly. Don't tear them off. You will injure the crop if you do, unless the land is very rich and the season favorable.

On rather thin land and in a dry season you may shorten the crop one-third or more by deep culture. Sometime, perhaps, if it hasn't rained since you did your last cultivation, you can do good work by using the weeder only. On some sandy or prairie soils perhaps you can if it has rained, and particularly if the shower was a light one. But on land with considerable clay in it a heavy rain is apt to pack the surface so a weeder will hardly take hold, unless one cultivates first. When you have done this you bring the entire weight of weeder on the little strip along the rows. I have sometimes put a weight of 25 or 30 pounds on the weeder, as it was easier to lift this around at the ends than bear down so much all the time. On some soils you may never need to bear down, however. I would continue using a weeder in corn, or potatoes, until sure I was doing too much damage. Merely pushing the plants over does no harm, as they will come up again promptly. When you actually break off too many you will have too stop. But keep the cultivator going. Then is when thorough early work tells. It will have made the weeds sprout in the rows, or hills and killed them. The crop will shade the land now and help about keeping the weeds back, too. But keep stirring between the rows. How long? Why until the corn is well eared, if it does not blow over, and if you go shallow. Be sure and have one-horse cultivators ready to use after the corn is too big for using a two-horse. It will pay. It will pay if you have to hire an extra man during harvest. I say "it will pay." It would be better to say one man can make it pay. How many times shall you go through your corn with a cultivator? Oh, don't ask, but just keep everlastingly at it. And the same with potatoes. Shall you stop when the blossoms appear? Dear no. Keep on as long as a horse can get through and not tramp the vines too much, stirring the little strip between the rows that the sun can get at. But always run shallow, remember, not over two inches deep, and not wide enough to disturb the tubers. Rightly managed this work does all good and no harm. You keep the middles clean. Weeds can not grow up. You keep the surface loosened up to catch rain, which is an important matter. But now let me give you one absolute rule in regard to the use of the cultivator, weeder or harrow in growing crops. You cannot do this work just when you have the time and get best results. It will not do to simply go over the ground so many times in a season, without regard to when, simply often enough to keep the weeds down. Let me tell you about the when, a matter that has literally brought us thousands of dollars. From start to finish never let the surface dry up after a rain, or rainy spell, and remain unbroken. Stir it always as soon as the land is dry enough to work. If it rains again in 24 hours, no matter, stir it again. If it does not rain, is all dry and dusty, never mind, stir again inside of a week anyway, although you work in a cloud of dust. This stirring makes a mulch that saves water from evaporation, saves it for the crop. Water evaporates rapidly from an unstirred surface when the sun shines, or the wind blows, but very slightly after you have made the surface fine and mellow two inches deep. This is the way to save water for your crop in a dry time. But keeping weeds down and saving water is not all one does by so much work. No! There is much inert plant food in the soil. Ordinary tillage makes a little available. This extra tillage makes more ready for plants and you get larger crops. Larger because you have kept weeds from getting any. Larger because you have saved water for the crop. Larger because it has been able to get more to grow on. I hope you all prepared your ground well, and have it well supplied with vegetable matter, then this extra care of crop will pay still better. I have lately had to throw away six letters from friends without helping them any. They failed to give their full addresses, and the matters were not suitable for these columns, or we could not get to them in time. A lady wanted to know all about strawberry culture, but failed to give her post office. One friend was ashamed to sign his name. I could have referred both to books that would have helped them, if I had had a chance. One friend wanted to know about rebuilding a brick house; another about strawberry culture, but did not give his State. Whether North or South I do not know. Too bad. Please always give your full address. It will not be published if you so request. When you give your address, and hear nothing, kindly understand that I cannot help you on that point.

Health Hints. — Poor Health and Death Rate Made Less by Pure Air in Homes.—The following is the substance of a very kind and valued letter from W. M. R. Vose, Albemarle Co., Va.: "Permit me to say that you overestimate the danger of taking fresh air for a furnace from the inside rather than the outside of a house, 'Health Hints' of Jan. 10. I have tried both methods in a large number of dwellings. In my former home in Illinois cold air for furnace was taken from the front hall. There were storm sash on nearly all windows, but no lack of pure air and no loss of health. I have built about 50 houses for rent or sale, and after investigation deliberately adopted the inside plan and in all the years of my observation could never detect any disadvantage. It seemed to me that a better circulation of air was thus obtained, and that is the prime requisite in hot-air heating. Farm houses are not air-tight, and the amount of air that comes in around windows and through open doors is very great. And then persons of ordinary intelligence air out their houses every morning. Danger to health comes not from the particular source of cold air, but from the maintaining of too high a temperature." Were this a mere matter of opinion, and were it not a question of vital importance I would now drop the matter, after having given the above letter, and let all readers judge for themselves. But, my dear friends, "the great white plague," consumption, has been the cause of about one-seventh of all the deaths, the world over, in the past, and it is a preventable disease. It is a house disease. It is mainly caused by breathing impure and damp, unwholesome air in buildings. This is an established fact. Further, a person who has consumption, and who hasn't let it go on too long, can obtain a complete cure by simply living out of doors, all the time, night and day, with reasonable attention to diet, exercise, etc. This has been done, over and over, in this country and across the ocean. This goes to prove the cause of the disease to be as stated above. We may go on in our old ways, and bury loved ones from time to time, and call it a dispensation of Providence, and try and make ourselves believe the air in our homes is all right, but that does not alter the facts. These facts can easily be learned by any close student. My only object in giving them, over and over, is to help busy people, who haven't time to study the matters out for themselves, to take better care of their health.

Now let us look into the matter carefully. Out of door air contains one-half of one part of carbonic acid in 1,000 parts of air; a trifle less in the country. The breath that goes out from your lungs contains 40 parts of carbonic acid in 1,000 parts of air. A candle, or lamp, will go out in this breath. Birds confined in it will die. Every breath that you send out in a room that is closed, with no means of ventilation, reduces the purity of the general supply of air. The carbonic acid diffuses itself through the air of the room, just as a little milk will color a pail of water. You can see that in an hour or two the air of the room will be decidedly lowered in its oxygen and the amount of carbonic acid increased. You know oxygen is retained in the body when we breathe and carbonic acid sent out in its place. Pure air is only about one-fifth oxygen at the best. As the hours pass on the oxygen in the room continues to grow less, and the carbonic acid more, until there are 4, 5 or more parts of carbonic acid in 1,000 parts of air, as an air testing machine will show. In many cases it has been found very much worse, in crowded halls, court houses, etc., in particular. There is, of course, some changing of air through cracks around windows and doors. Some impure air gets out; some pure in. This change is greatest in very cold, windy weather. It is extremely little in still, moderate weather, and particularly where storm sash are used. Under average conditions, at any rate, from four to five parts of carbonic acid have been found in 1,000 parts of air in bed rooms in the morning, and about ten times as much as nature intended us to breathe. No direct sickness may result. There will simply be a slight lowering of the vitality, with perhaps occasional headaches, palpitation, labored breathing, a feeling that we are not fully refreshed, etc., etc. For a day, or a week, this would not be of importance, but air with only two parts of carbonic acid in 1,000 physiology tells us will, in time, cause ill health, if constantly breathed. Homes are common where the air is as impure as this in the winter time. It cannot be otherwise than impure where the house is warmed by a furnace that takes the cold air from the floor above, if there are the usual number of people inside. One simply warms and breathes the same air over and over. Enough air would work in, probably, so there would never be more than four to six parts of carbonic acid in 1,000 of air, but this is more than enough to lower the vitality before spring, of those who are quite constantly in the house, and not very strong, to a point where tuberculosis germs, if breathed, would not be thrown off but would go to multiplying. A healthy person, breathing plenty of pure air and living properly, is in no danger whatever from these germs, or any others. Germs are waiting around to kill off any weak persons, or those who have too greatly violated natural laws. Haven't you noticed how ill health is likely to culminate in the springtime and people are very sick or die off? One cause of this is the impure air of our homes, which we have been confined to more closely during the cold months. Consumption would practically be done away with, and much other ill health, too, if we would have the air in our homes at all times as pure as out of doors, and would so dress that we could breathe it unrestricted. Friend Vose says that intelligent people air out their houses mornings. Some do; some don't. But that is a slight as well as uncertain remedy; better than nothing, good as far as it goes, but not nearly enough. Perfect results will come from arrangements that keep the house aired out all the time, and automatically, so no one can overlook the matter. More on this point in two weeks.

T. B. Terry.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Rape, etc. — Z. H. Postles, Hudgins, Va.—"Would rape, sown in September, make an earlier spring pasture for hogs than crimson clover? Would the fall growth remain green or would spring growth only be for feed? Would it be better to sow the rape in standing corn the middle of July or in September after the corn is cut? Would not broadcasting be as good as drilling? You advise a Georgia man to breed up from corn that he has. Do you advise that for everyone? Surely corn characteristics will survive removal, and acclimating will require a shorter time than the breeding up process. I have not the kind I want. It is single-eared and long-stalked. Would like a corn not over six to eight feet high, with two to three ears on a stalk. Which variety would be best? Blount's Prolific is highly spoken of." Rape, sown in early September, and well cultivated, ought in your tidewater section, to give you a pasture all winter through. We have had it stand nearly knee high here all winter till fed off to sheep. We have never broadcasted any and cannot say how it would compare with that drilled and cultivated, but we assume on strong land it will make a very fair growth when broadcasted. It will, of course, give you feed a great deal sooner than crimson clover, but it will not help the land as the clover does. It may be well to drill the rape and then broadcast clover all over. This, of course, would be the same as broadcasting the rape, so far as cultivation is concerned. But it would give you the clover after the rape is used. But in that case the rape would have to be cut and not pastured till the clover is ready to pasture. We hardly think that seeding in the standing corn would be well. Now as to the seed corn. If you can get a variety that has been improved and not too far from your climate, either north or south, you will gain time by using it. The larger seedsmen are now having corn grown in different climates to suit the demand from various sections of the country, and corn for the Southern trade is now grown in the South. The Hickory King will come nearest to what you describe. Another very fine sort, the Snow White Dent, sold by Wm. Henry Maule, Philadelphia, is about as fine a white corn as you need. If you want a yellow corn the Mastodon has done wonderfully well here. Blount's Prolific may be good but we do not know it, never having seen it. You will find it hard to keep any corn down to 6 or 8 feet in your latitude on good land. What we need is a corn that will have about as much top above the ear as stalk below.

Nitrate of Soda on Grass.—Lewis R. Carlton, Loano, Va.—"I am interested in applying nitrate of soda to grass that has been seeded two years. Have received a little book on that subject from W. S. Myers, of New York, but he seems to have reference to the application at time of seeding. Would like to know if it will do on the old seeding?" Nitrate of soda is an excellent application to grass land in the spring, no matter what the age of the sod. Apply 100 pounds per acre when the grass is perfectly dry, and we think you will find that it pays. We have used it on wheat and increased the crop nine bushels per acre.

Silage for Sheep.—Alfalfa. — C. W. Smith, Lake Park, Minn.—"I was interested in Mr. Stewart's reply to Z. H. Postles in February. As I have a farm near Williamsburg, Va., and am going to try to raise sheep, I should like further light on the subject. He says: 'Silage is not a fit fodder for sheep, for which sour food is entirely inadmissible.' Does he mean that all silage is necessarily sour? I have had a good deal of experience in corn silage, and have had no sour silage when the corn was properly matured when put in the silo. We put corn in when glazed, unless frost comes too soon, which is apt to be the case here, and then we have sour silage. Mr. Postles, in Matthews Co., Va., should be able to mature corn every year, and have no trouble with sour silage. Will alfalfa grow in the neighborhood of Williamsburg? I was told when there that it would, but saw little. Mr. Stewart also says that alfalfa is one of our poorest hay crops. I have never had any experience in feeding alfalfa, but have always understood that it is one of the best hay crops from those who have fed it. I should like to hear from others in the South in regard to this alfalfa and sour silage. Tell Mr. Postles to go slow with sheep if he knows nothing about them." We suppose that Dr. Stewart had reference to the silage which we used to make in the brick and cemented underground silos, in which almost any corn would get quite acid. With the modern methods and the wooden overground silos there is, as you say, very little acidity in silage from corn that has been properly matured, and there is not the slightest danger in feeding it to any animal on the farm. As to the alfalfa, there is not the slightest doubt but that it will thrive on the land about Williamsburg, Va., if it is properly prepared and enriched. Years ago, before we fully understood the nature, and treatment of the alfalfa plant, there were a hundred failures in the East to one success. The Minnesota Experiment Station has just issued a bulletin on alfalfa culture, showing that it is a success even in Minnesota, they having a peculiarly hardy variety there brought by the Scandinavians from Europe. The soil about Williamsburg, Va., is, to our mind, an ideal soil for alfalfa, and there is no food for sheep superior to it. The Utah Station has shown by actual experiment that horses thrive far better on alfalfa hay than on timothy, and there is no legume hay that is much if any better. Do not put alfalfa on low, wet land, but on dry soil with a subsoil easily penetrated by its long tap roots. It will pay to plow deep and subsoil carefully in the preparation, for it is a crop for many years. It is thriving on the pine barrens in this State on soil that is almost pure sand for fifty feet down, carefully fertilized of course. Near Hillsboro, N. C., Col. J. S. Carr has a large field of alfalfa which cuts about four crops a year, and has been doing it for a number of years, and his soil is a strong clay loam. In the South, always sow alfalfa in the fall, and lime it in the following spring, and then mow it several times the first season whether large enough for hay or not, for the mowing seems essential to save it the first season, and to strengthen the roots. Mr. J. E. Wing, of Mechanicsburg, O., has about his whole farm in alfalfa solely for the purpose of fattening lambs in winter, and his success shows the great value of the crop for sheep.

Mice and Rats. — A. D. Cencibaugh, Congo, Mo., wants us to have a Pool on the clearing of the premises of mice and rats. Mr. C. is a new subscriber, and thinks the P. F. is the best farm paper he has seen. We had a full discussion of the rat and mouse subject several years ago, and may take it up in some shape in the near future. The general verdict in the former discussion, if we remember aright, was that plenty of cats are the best means for keeping down mice and rats. We keep a lot of cats and no dog, and mice and rats are a rarity in barn or dwelling. In our experience a good cat is worth more than all the rat poison ever devised.

Disk Plows.—To several queries in regard to the value of disk plows we have to say that the disk plows so far as we have observed, are none of them yet perfect in all kinds of soil. They do not work well in land where there are many broken rocks, and for the majority of farmers they take too heavy a team. Three heavy horses is as light a team as can be worked to advantage with them. On land too hard for any ordinary mould-board plow to keep to the required depth the disk plow will do the work effectively with team enough. But the time has not yet come when, for general purposes, the disk plow will take the place of the mould-board plow. The idea is all right but the perfecting of these plows is yet to be done. We doubt if they will ever take the place of the mould-board plow on land full of loose rocks.

Manure Hauled in the Spring.—Jas. C. D. Porter, Alliance, Pa.—"It used to be the custom to leave most of the barnyard manure to be hauled onto the land in the fall. There were some good reasons for this practice; the bulk would be much less, the weight the same and there was more time to do it after harvest. Analyses at the Experiment Stations have shown that there was a loss of 40 per cent. of the value of the manure by this practice. The manure hauled in its green state is worth that much more than that left until fall. Surely this saving should lead the farmer to make an extra effort to get the manure on the land in spring. Another feature of the business is that one season is lost by waiting until fall."

Fertilizers.—A Tennessee subscriber asks: "1. I can buy muriate of potash for three cents per pound. Is this a fair price? 2. A fertilizer factory offers what is called 'cremated' bone' at $7 per ton. They say it is somewhat like land plaster. Would it do to scatter on grass land? 3. Will it pay to haul ashes from hard-wood 5 miles over rough roads? Can get the ashes free. 4. Will it do to grow sweet potatoes two years in succession on the same land? Should the manure be broadcasted for sweet potatoes? 5. Would that cremated bone prevent ammonia from escaping from manure?" 1. Three cents a pound is a pretty stiff price for the muriate of potash. You ought to be able to get it in Chattanooga for $45 to $50 per ton. 2. We know nothing about the cremated bone, except that from the price we will guarantee that there is not a particle of bone in it. It is probably the pulverized phosphatic rock, and if so, it will make a very good dressing on the grass land, but rather slower than if it was dissolved acid phosphate. It will also be good to mix in manure if used liberally. This is, of course, assuming that it is the pulverized rock. Better have some guarantee of what it is and never buy anything under a fancy name. 3. If the ashes have been kept under cover and are dry it will pay you to haul them when not otherwise busy. 4. Sweet potatoes often do better the second year than the first on the same land, but it is not a good practice to continue any crop on the same land too often no matter how you fertilize it. We always use commercial fertilizer on sweet potatoes and make a mixture high in phosphoric acid and potash and low in nitrogen. Stable manure tends to make too much vine growth.

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It is commonly inherited.

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General Agent for
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Wood Ashes in Manure.—B. Turner, Angwin, Cal. — "I always scatter wood ashes over chicken manure. Does it destroy any of the fertilizing quality? Is it right to scatter the ashes over horse manure?" Wood ashes should never be mixed with any animal manures, for they have a large percentage of lime in them which tends to volatilize the ammonia and let it escape in the air. Plaster is a useful material to mix with the manure.

Alfalfa in Mich.—G. Swanson, Stephenson, Mich.—"I was so inspired by Mr. Terry's article on alfalfa that I decided to sow some this spring. But several of my neighbors who have tried it say that they would not allow it sown on their land if paid for it, because it grows so coarse, about a quarter of an inch thick in the stalk, with hardly any leaves on it, and is like dried sunflower stalks." The men who told you all this have never seen alfalfa, and have gotten it confounded with some other plant, probably melilotus, which would answer your description, and which is getting to be a troublesome weed though somewhat useful as a legume for lime soils. You ask how it will do to sow it in an orchard. It will not do at all, if you want fruit in the orchard. Alfalfa is a hay plant, and no man has any business making hay in an orchard or making a pasture either. Grass, kept cut often and let rot on the land is about the best thing for a bearing orchard, if you want the apples to pay. The trees need the land and must have it all if good fruit is expected. Do not be afraid to sow alfalfa on your best land.

Apple Rust.—Beets. — C. C. Gettys, Duncan, N. C.—"Apple trees near some cedars are covered with the eggs of some pest. The growth of the apple trees was much dwarfed, and they did no good last year. I suspected the cedar as the cause, and have destroyed them. Am I correct in this, or should the apple trees be destroyed to prevent spreading to other trees? Beets that were stored in winter, on being boiled, lose most of their red color, the water in which they are boiled becoming red. When cooked as taken from the garden in summer they do not lose color so. How can we prevent this in the stored beets? I have found that cutting turnip tops closely causes them to retain their sweetness and firmness longer than when the tops are left an inch or so long. Before sowing seeds in hotbed I put them in a glass jar with saturated cotton and placed them in a warm place till swelled and some sprouted. Was this as well as though I had put them in the hotbed at once without sprouting? I propose a topic for the Pool. 'What three things have appeared in the P. F. in the past that have been of the most practical benefit to you?' The reason is that a large number of the new subscribers here have not seen many things that have appeared. Mr. Terry writes at some length about a funnel shaped wagon body. He could have told how to make it in fewer words than to talk all around it. The P. F. is improving and I am glad to see more for our section." Without seeing the apple twigs it is hard for us to determine what is the matter with them. The presence of cedar trees will cause leaf rust on the apples, but in your elevated section there are hardly many leaves grown yet, though they are fairly well out here. You should cut and mail specimens to the State entomologist, Franklin Sherman, Raleigh, N. C., and get his opinion in regard to the trouble. The eggs you mention may not be of a harmful insect, and you may be in error in attributing the damage to them. Hence get the opinion of the entomologist. You may have the San Jose scale, but I am rather inclined to think that it is the oyster shell bark louse, which is everywhere in Western North Carolina, and is killing a great many trees. For this insect the best thing is to give the trees a heavy coat of whitewash. We have never known of any difficulty in beets, such as you mention. Here, we do not store beets or turnips, but simply plow a ridge over them in the fall. In your colder section the storing, we suppose, is necessary. The topic you propose for the Pool is one which we have been putting up every fall for some years past, and which in some shape or other we expect to have up the coming fall. We will let Mr. Terry answer you about the funnel-shaped wagon bed. The way for new subscribers to get what they want is to send us their queries and we will try to answer them as fully as we can. Glad that you think the P. F. is improving. We want it to improve in numbers of readers, and this will enable the publishers to improve the paper more rapidly. We do not think that there is any advantage in sprouting seed before sowing in hotbed.

Pyrethrum Powder. — E. F. Ruff, Dimsdale, N. C. — "Please tell how to treat the Persian insect powder plant. I have a number of them growing freely and now beginning to bloom, and want to know how to use them as an insecticide." Gather the flowers as they are fully expanded and dry them in the shade, and when perfectly dry pulverize them in a mortar, and the fine powder thus obtained is the so-called Persian fly powder. The plant from which this powder is made is Pyrethrum Roseum, a close relative of the ordinary chrysanthemum. When freshly prepared it is a very effective insecticide, having a paralyzing effect on insects and choking up their breathing pores, which are in their sides, for no insect ever breathes through its mouth. The plants are hardy perennials and can be grown in any quantity from seed.

Potatoes in Tenn.—W. H. Rochelle, Medon, Tenn.—"Will the Burbank Irish potato, planted now, make a second crop for seed? We plant the Triumph for the second crop from July 1st to August 1st, preferably in July. I will plant the Burbank in a few days, and to plant the Triumph on the same land it would probably mix." We suppose you mean the second crop from seed of the first crop grown this season. The Burbank will hardly mature early enough to make a second crop planted this late. They should have been planted at least a month ago for any potato to make a good second crop. We usually plant in February, but this season the wet delayed us and we did not plant till March. You can plant the Burbank and the Triumph side by side without any danger of mixing if you dig and keep them separate. Plants mix only through the crossing of the bloom. If you used the potato seed from the balls that have been crossed they would likely be mixed. But we do not use the seed of the potato for planting for a crop, and hence they cannot mix. Potato tubers often vary in the hill from the type planted, but this is a mere bud variation and is not caused by mixing with other sorts. The stems of any plant will at times vary from the type, and the potato is merely a stem growing under ground. These bud variations are what the gardeners call "sports," and no one knows the cause for the sporting.

Storing Sweet Potatoes.—Subscriber, Maryland. — "In gathering sweet potatoes, we cut the vines and plow on each side with a double plow, taking the potatoes out by hand and throw three rows into one heap row. The potatoes are put in bushel baskets, hauled to the potato house and emptied in large bins, each holding about 100 bushels. Some years the potatoes keep well, and in some years they do not. Would it be better to gather them in slatted bushel boxes, and put the boxes in the bins? What is the best way to haul and spread lime by hand?" Treated as you describe it is surprising that the potatoes keep well at any time. We dig in dry weather if possible, and never throw the potatoes at all, but let them lie scattered along the rows where dug, in the sun, until evening. Then gather in boxes, and either store them in boxes or put on slatted shelves in the potato house not over a foot deep. Then start a fire and keep the temperature up to about 85 or 90 degrees till the potatoes are well dried off from the sweat. After that see that they are kept at about 50 degrees with plenty of ventilation in warm spells. Throwing the potatoes in heaps will bruise them. They will keep much better if gathered carefully in the slatted crates and stored in them in the bins, piling them so as to admit air all around them. The drying off at a high temperature is the chief point in the keeping, and the previous handling should be as tender as for eggs. In spreading lime we always measure the wagon body and then put in it what we want to scatter on an acre, and spread it with a shovel. A good hand can soon learn to spread it quite evenly. If the lime is mixed with some bulky material in proper proportions it can be spread well with the manure spreader.

Cow Peas in Cumberland Valley.—C. W. Duffield, Chambersburg, Pa.—"I have three acres of land that was in corn last year and made 60 bushels per acre, planted on heavily manured clover and timothy sod. Have it plowed now. I wish to sow cow peas for hay. What variety shall I sow? Shall I get seed from the South? Thought of sowing them with a grain drill. How many per acre? Should like to make the hay by the last of August." On land of that character the peas should be sown quite thickly to prevent the stems getting too large and hard to cure. On thinner land one bushel per acre would be good seeding, but on strong land like yours we would use at least five pecks of seed per acre. Either the Large Black or the Clay will give you a heavy crop. The Wonderful grows more erect at first and makes a very heavy crop, but it will be too late to mature in your climate. Get the seed grown as far North as you can. Wm. Henry Maule, Philadelphia, can probably furnish you with Northern grown seed. Do not sow until the land is warm, say about June 1st. Cut when the first signs of yellowing in the pods is seen. We read a paper on the cow pea at the meeting of the Pennsylvania Board of Agriculture in January last, which will probably be published and you can get a copy in the report of the Board by writing to the Secretary of Agriculture at Harrisburg, Pa.

The Editor will be glad if all inquirers will be careful to give not only their postoffice and State, but county where they live. This is often an important matter in advising anyone in regard to the planting and growing of crops.

◆

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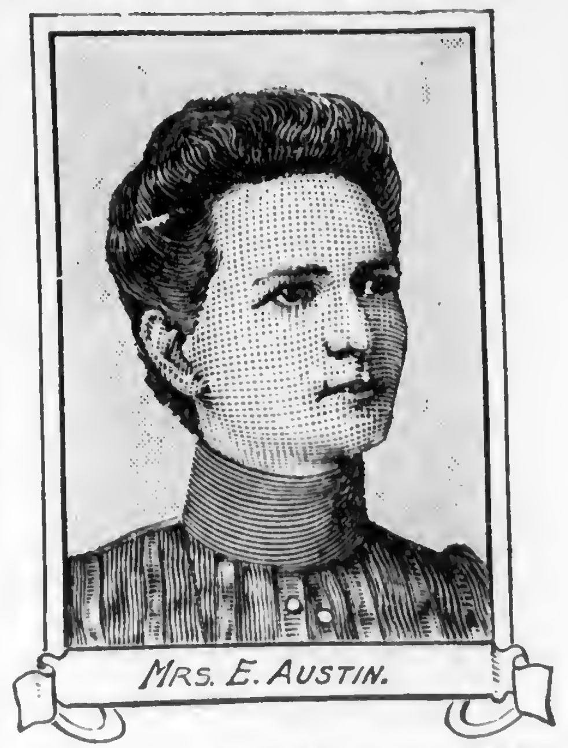

MRS. E. AUSTIN.

An interesting letter to our readers from Mrs. E. Austin of New York City.

New York City, Nov. 9th, 1902.

A little over a year ago I was taken with severe pains in my kidneys and bladder. They continued to give me trouble for over two months and I suffered untold misery. I became weak, emaciated and very much run down. I had great difficulty in retaining my urine, and was obliged to pass water very often night and day. After I had used a sample bottle of Dr. Kilmer's Swamp-Root, which you so kindly sent me on my request, I experienced great relief. I immediately bought of my druggist two large bottles and continued taking it regularly. I am pleased to say that Swamp-Root cured me entirely. I can now stand on my feet all day without having any bad symptoms whatever. You are at liberty to use this testimonial letter if you wish. Gratefully yours,

Mrs. E. Austin.
359 West 19th St.

The mild and prompt effect of Dr. Kilmer's Swamp-Root, the great kidney, liver and bladder remedy, is soon realized. It stands the highest for its wonderful cures of the most distressing cases. Recommended and taken by physicians, used in hospitals and endorsed by people of prominence everywhere. To prove what Swamp-Root will do for you a sample bottle will be sent absolutely free, by mail, also a book telling all about Swamp-Root and its wonderful cures. Address Dr. Kilmer & Co., Binghamton, N. Y., and be sure to mention reading this generous offer in The Philadelphia Practical Farmer.

If you are already convinced that Swamp-Root is what you need, you can purchase the regular fifty-cent and one-dollar size bottles at the drug stores everywhere. Don't make any mistake, but remember the name, Swamp-Root, Dr. Kilmer's Swamp-Root, and the address, Binghamton, N. Y., on every bottle.

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Live Stock and Dairy.

☞ If stock breeders who have live stock to *sell* will use the columns of the P. F. they will be surprised at the results. A 4-line stock advertisement inserted one year will cost $37.44, only $9.36 per quarter, and will keep your business in a healthy and profitable condition

Stock Queries.

Feeding Query.—I am milking, or have, altogether 41 cows and expect to increase the herd to 50 soon. These cows range in size from 750 pounds to 1,111 pounds. In ages from two and a half to nine years old. I feed the younger and smaller ones 12½ pounds good corn ensilage, 2 pounds cottonseed meal, 3 pounds wheat bran and about 8 pounds of stover. The second grade gets 15 pounds ensilage, 2¼ cottonseed meal, 4 of bran and 6 to 8 of stover. The largest cows have 40 pounds ensilage, 3 of cottonseed meal, 6 of bran and 8 to 10 of stover. The stover is all given for the evening and the rest of the feed equally divided for morning and evening. I grew the corn from which the ensilage and stover were made. The cottonseed meal costs $22 per ton, and bran $20. While my cows look well, seem to be thriving and give a reasonable flow of milk, I do not get the returns one would expect from such grade of cows fed as these are. Can you suggest a ration a little more economical, of better balance and especially butter-producing? Corn is worth 60 to 65 cents a bushel, and oats the same. If you can suggest a more prudent apportionment of the feed I am using with some less costly ingredient added which will be good for the cows and produce a profitable result, I shall certainly be obliged. I want first to take care of my cows and next to get out of them the very best product in butter. Skimmed milk fed to calves and hogs. With a little pea vine hay added to the calves' feed and a few peas to the hogs' all are doing remarkably well. Better could not be asked.

Chamblee, Ga. J. C. MANESS.

(Reply by Prof. A. M. Soule.)

At the prices mentioned for corn or oats these could not be substituted for any part of the ration now fed to your cows with advantage. They are too costly for this purpose and not so well suited to milk and butter production as cottonseed meal and bran. While not familiar with the yields of your cows, they should give results that would justify the feeding of a larger amount of silage and more concentrates. A 1,000-pound cow should have about 40 pounds of silage per day, and about 4 pounds of cottonseed meal and 6 pounds of wheat bran. If she gives an unusually large flow of milk, the grain may go above this, but the bran is the ingredient that should be increased. You are feeding your cattle all right in giving them the stover at night. Cattle on silage enjoy just a little dry food to pick over every day, and it is an advantage to be able to give them this. Try increasing the silage, cottonseed meal and bran as suggested and see if the results do not justify it. Beyond that with the foodstuffs you have in hand, I am unable to suggest anything.

Heating Milk. — R. A. Bloomfield, Mt. Sterling, Ill., writes: "In reply to L. E. B., Shepherdstown, Pa., in P. F. of April 11, page 252, you say it will spoil the grain of the butter to heat the milk. Much of the finest of butter is made from pasteurized cream. It should, however, be thoroughly stirred and mixed to prevent a crust forming which will make the cream lumpy. The fact is, the grain is made or marred in the churning or working."

Alfalfa for Horses.—H. H. Chesbro, Claremont, Va., writes: "Noting what R. W. Scott, of Kansas, says about feeding alfalfa to horses, I cannot help saying that I consider it, in connection with corn for grain feed, the very best horse hay to be had. I have fed it for eight years, and with four or five ears of corn and a reasonable amount of alfalfa my horses are always fat and sleek and always healthy. One could not ask for anything better for horses. At least this is my experience. It should be cut when coming into bloom and cured as you tell us to cure cow pea hay, only we do not let it lie in the field so long. Cut in the forenoon and put in a tight barn the next afternoon it comes out, with us, almost as green as grass, and is everything we want as horse feed."

Dried Blood as a Tonic for Young Calves.—For two years the Kansas Experiment Station has used dried blood in connection with its experiments in feeding calves. In March, 1899, one of our cows gave birth to a calf weighing eighty-six pounds. This calf was allowed to suck for several weeks, to assist in reducing the inflammation in the dam's udder. On account of poor quality and quantity of milk, the calf did very poorly, and to save its life it became necessary to remove him from his dam. With the ordinary treatment accorded our calves he grew worse and worse, and when seventy-nine days old weighed only ninety pounds, or four pounds heavier than at birth. Although no one would have given ten cents for the calf at this time, an effort was made to bring him up. He was given castor oil, laudanum, fresh eggs, calf meal, and, as a last resort, dried blood. With the blood the calf commenced to improve, and in a short time was gaining at the rate of nearly fourteen pounds per week, and not infrequently as high as seventeen to eighteen pounds per week. When a year old he weighed 578 pounds—a pretty good record for a calf that gained only four pounds for the first seventy-nine days of its existence. The dried blood consumed during parts of three months amounted to seven and one-half pounds. At two cents per pound, the cost was fifteen cents. In October, 1900, a heifer belonging to the Agricultural College dropped her first calf. The calf was small and sickly, and for the first few weeks did very poorly, as is shown by the fact that on December 1 it weighed two pounds less than on November 1. For a few weeks its life was in a very critical condition, but when induced to eat a little dried blood with its milk it began to improve and has been making fair gains ever since. Dried blood is not only good for a weak calf, but is an excellent remedy for any calf subject to scours. The Kansas Experiment Station has just purchased twenty young calves. Frequently these calves arrive at the Station badly affected with scours; a little dried blood always brings about a cure. Recently a test was made with five calves that happened to be scouring at the same time. With two of these dried blood was fed, after reducing the regular feed of milk. With the other three the dried blood was fed without changing the supply of milk. In the former case the calves recovered from the scours after two feeds; in the latter after three feeds. With the seventy head of young calves under experiment at the Kansas Station during the past year, there has not been a single case of scours that dried blood has failed to check. In feeding dried blood, a teaspoonful at a feed is a great plenty. This should be continued until the scours disappear. In case of a weak calf, the allowance may be gradually increased to a tablespoonful at a feed. To prevent the dried blood from settling at the bottom of the pail, where the calf will be unable to get it, it may be stirred in the milk while the calf is drinking, or the milk and blood may be fed immediately after being thoroughly mixed. Since dried blood is such a cheap and effective remedy, it will pay anyone who raises young calves by hand to have a little available whenever a calf shows signs of disorders in its digestive tract. It can be obtained from any of the large packers. When ordering, state that the blood is wanted for feeding purposes.

D. H. OTIS.

Kansas Experiment Station.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Chronic Indigestion.—Percheron mare 11 years old began to run down and has continued until she is very thin. I increased her feed until she had six quarts of oats and a large quantity of clover hay, and still she got in worse shape; was fed only hay at noon and watered an hour after eating grain; good spring water, and she drank large amounts, sometimes 30 quarts. Appetite is good; eats everything in reach, even dirty bedding. Manure all right; water quite thick and stringy as if white of egg was mixed in it; shedding slowly; hide bound. Neck is three or four inches smaller than last summer. Slight discharge from vulva, just a dropping of brownish water enough to keep the tail stained. Vulva stands open a little at times, as if caused by inflammation of the urinary duct. 2. Three-year-old colt has a weak eye; at times nearly as good as the other, then watery and slightly closed and covered with film. A 7-months-old Percheron colt runs with her and I notice that also has a watery eye. Is it periodic ophthalmia, and is it infectious?

Mantua, O. DON H. HUSTED.

We have answered similar questions many times in this department of the P. F., and these should be consulted if you preserve the back numbers of the paper. The mare is troubled with indigestion, and it may come from allowing drinking water after feeding. Always give the water before and not soon after feeding. If you can get New Orleans molasses you can soon bring her up with that food and without medicine. Cut hay or clean oat straw and mix with it bran and corn meal, then add a mixture of equal parts of molassses and water, giving at least a quart of molasses at a meal. She will not like this food at first, but will starve to it in a couple of days and then take it greedily. It is a question whether she is in foal or not. At least it is quite unusual for a mare to be in foal and still have a discharge such as you describe, and it may be that the foal is dead and this gives rise to the discharge and explains some of the thin condition referred to. It would be well to have an examination of the womb made by someone competent to tell its condition. Write again later as to this if necessary. The colts are both afflicted with periodic ophthalmia, which is incurable but not infectious. It is transmitted to progeny by affected parents in the form of a predisposition to eye trouble which aggravates into actual disease when colts are exposed to irritating environment such as badly drained ground, damp, dark, badly ventilated stables, etc. See answers on this subject in back numbers.

Nymphomania. — Eight-year-old mare in good condition, had a colt three years ago and was bred again the same spring, but lost colt in fall; spring colt was suckling then. Now she is very troublesome at times; while driving her she often stops and passes urine. Is there any hope of getting her with colt again? Is there any remedy to cure the trouble above named? She has been tried since that time.

Waterloo. SUB.

Mare is affected with nymphomania from some diseased condition of womb or ovaries, but we have no doubt she can be got to breed again if properly treated. Cut grain ration in half and exercise freely every day, or put her to steady work. Twice daily for ten days give her one drachm of iodide of potash in a little water. Twice a week give her a warm bran mash. When in stable keep her in large, well bedded, airy box stall in clean barn. If there is a discharge from vagina, flush vagina out once daily with a solution of half an ounce of tannic acid in two gallons of warm water introduced by means of a hose and funnel or half inch rubber hose attached to a large pail to be hoisted high over back of mare. When she has been thus treated and no discharge is seen and when periods of heat are normal have mouth of womb opened by someone who understands the work, then flush vagina out with two quarts of warm water in which dissolve a tablespoonful of baking soda. Inject an hour before service and have her well worked before service. Then keep her quiet in isolated box stall and give internally half an ounce of fluid extract of black haw three times daily for two days.

Grease.—My horse has a sore on one hind foot, at heel, and one on the front foot, on the side, both on left feet. The hind leg is swollen from foot to the body. He is not a bit lame. He rubs his tail at the root, and sometimes there is a watery substance comes out, but soon dries up and does not get sore. Works every day and is fed three quarts of oats, one of corn and one of wheat bran. He is gaining in flesh, but his feet keep running and will not heal. PRESTON CRAWFORD.

Dushore, Pa.

The horse is affected with chronic grease, which you will find it very difficult to cure. Stop feeding wheat and corn and cut usual oat feed in half. Feed hay early in the morning and late at night but none during the day when he has work to do. Twice a week give him a bran mash and in it mix two drachms of saltpetre. Night and morning give him a tablespoonful of Fowler's solution of arsenic and when he is about well gradually decrease the dose of this medicine and at length stop its administration. Arsenic should never be stopped suddenly, as the horse will not do well without it. Cleanse the sores well with soap and hot water then apply hot poultices of flaxseed meal in each poultice, mixing two tablespoonfuls of powdered wood charcoal and two drachms of carbolic acid. We are taking it for granted that there is a discharge and bad odor from the sores on feet. After discharge ceases and bad smell subsides, stop poulticing and apply a little of the following lotion several times daily: Chloride of zinc, one-half ounce; sulphate of zinc, one ounce; carbolic acid, two drachms; water, one pint; shake. It is also necessary in such cases to have the stable kept clean and well ventilated and at all times to exercise or work the horse. Now as to the rubbing of the tail. That comes from idleness, high feeding and filth, so that the above method of feeding and management is needful for that condition also. Wash the root of tail and mane well with hot water and soap, then wet it twice daily with a solution of a tablespoonful of Chloro-Naptholeum in a quart of soft water. Have him stand in a box stall when idle and groom his skin thoroughly night and morning. It is only by this method and amount of work that he can be cured and then the trouble will be likely to return if he is heavily fed, given little work and kept in a filthy condition.

Leg and Body Wash.

When it comes to stiffness and soreness of muscles, tendons, etc., nothing equals

Tuttle's Elixir

for restoring normal conditions. Apply to the body as a mild sponge bath and put on light blanket. Sponge the legs and put on light bandages.

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Tuttle's American Condition Powders

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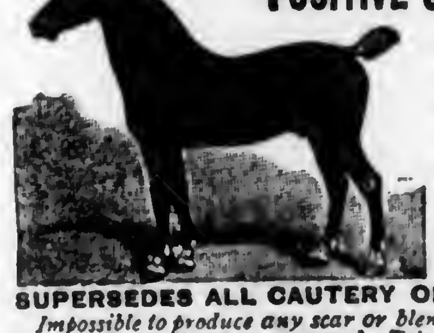

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Non-Breeder.—I have a mare 11 years old, weight 1,200 pounds, that will not breed. Had colt six years ago. Womb has been examined and seems sound. When bred continues to throw off several days; seems very loose. Has been bred with capsules and impregnator, and used cold water over back; bred to different horses and jacks. She is in good fix and good feeler. Can anything be done to make her breed? J. C. BRADY.

Osawatomie, Kan.

We suspect that she has some chronic womb trouble, such as leucorrhœa, and would advise you to treat her accordingly. Flush out the vagina once daily with two gallons of tepid water containing half an ounce of tannic acid. Give her an ounce night and morning of a mixture of equal parts fluid extracts of ergot and hydrastis canadensis. Stop feeding grain and substitute hay and bran mashes with green grass when procurable. The object is to get her into thin condition, but work her so that she has plenty of muscle. Give her this treatment for one month, then stop until ten days prior to next heat when the treatment should be again given until day before she comes in heat, when vagina should be flushed out with two gallons of warm water containing two tablespoonfuls of baking soda. Also before service (one hour) flush vagina with two quarts of warm water containing one tablespoonful of baking soda and bring her sweaty to the stallion. After service give her half an ounce of laudanum and one ounce of fluid extract of black haw. Repeat the dose of black haw every four hours for four doses and during this time keep her in a quiet, secluded box stall. She is to be bred in natural way if it is known that mouth of womb is open. If it is necessary to open mouth of womb do so, but breed her first time in normal way. If she does not catch treat her as before and breed next time with capsule or impregnator.

Indigestion. — My mare, 6 years old, weighs about 1,000 pounds; doesn't do well. For the last two weeks she had a hacking cough, just at spells, and mostly mornings. She has the scours frequently; eats and drinks well, but she does not fatten. I think she is troubled with indigestion. We feed her bran mashes every morning and water before feeding. AMOS YODER.

Hubbard, Ore.

You are correct in thinking this a case of indigestion, and it may be mentioned that cough often accompanies stomach trouble and indicates either throat irritation or a tendency to heaves. Stop feeding bran at once and substitute oats with good hay night and morning. Wet all food with lime water unless water now used is hard from lime, and in that case it would be best to give her soft water instead. Night and morning give her half an ounce of Fowler's solution of arsenic and half a drachm of fluid extract of nux vomica. If she continues to scour mix browned wheat flour freely in her food. Have her teeth put in good order by a veterinary dentist. See that stable is clean and well ventilated and muzzle her if she eats her soiled bedding. Write again later if necessary.

Fistula.—Colt 5 years old had a bunch come on the neck in fall; it was soft; felt as though it was full of matter; was about as large as half of a large apple. I supposed it would go off so have not done anything for it. It is quite hard now; does not seem sore; can feel it on other side of neck.

Gardiner, Me. L. H. MERRILL.

The abscess should have been freely opened at the time you first noticed it. Pus then present has become inspissated (cheesy), and a fibroid tumor has formed around original cavity. At this stage it would not be wise to cut into it unless sure that fluid is present. Merely clip hair from part and rub in mercurial ointment thoroughly once daily until slightly blistered, then stop for a while and smear daily with lard but repeat the rubbing with mercurial ointment when skin is sound again. If this does not tend to disperse the enlargement it will have to be operated upon, but rowelling will do no good. The operation will consist in cutting out the fibroid tumor or cyst walls and treating the cavity as so often advised here for fistula of the withers.

Impotent Boar.—About four months ago I bought a choice boar, 1 year old. From some cause he fails to get pigs. He is in fair condition and keen for service. I learn he ran out with a large drove of shoats before I bought him. Would this damage him? If so, will he likely get all right this spring on grass? Will any drug help him? C.

Cleveland, Tenn.

Unless there is some hereditary or mechanical obstacle to successful service, this boar should come around all right in time if treated as follows: Give him a four-ounce dose of epsom salts twice a week for two weeks, then once a week for a month. Mix it in the drinking water or slop. Turn him out for exercise and feed no grain of any kind. Do not allow him to serve any sows or be with sows or young hogs for two or three months. When he is thin commence feeding him ground oats, bran, flaxseed meal and dried blood meal to bring him up again, but during this time see that he gets plenty of exercise to keep him muscular and full of vim. He should lead a natural life out of doors until he gets rid of surplus fat and will when generously fed "hard" food, prove a potent sire.

Impaction.—I have a cow that has a sudden stoppage of the bowels; have not moved for about 48 hours. Have given 13 drachms epsom salts with 8 of castor oil, but don't seem to have any effect. She is milking and is in fair condition. Have been feeding corn fodder, timothy hay, buffalo grass, ground corn and oats and bran, with plenty of water and salt. J. G. MCCRAE.

Minkler, Ia.

Thirteen drachms of epsom salts would do no good. The dose is from one to two pounds for a cow, according to size and condition. We prefer from one and a half to two pounds of castor oil as one dose for a cow in this condition and until the bowels move rectal injections of soapy warm water and glycerine should be given every three hours, and at that time we would also give from half to one drachm of fluid extract of nux vomica and one to two ounces of whiskey in a pint of flaxseed tea as a drench. The trouble is due to feeding so much coarse fodder without a succulent food to keep bowels open, and this sort of feeding leads to the death of many thousands of cattle annually, all of which loss could easily be avoided by sensible methods of feeding.

Fibroid Tumor.—1. I have a mare 15 years old which has a hard bunch as large as your two fists situated a little to the right of the centre of breast just where the breast collar has to pull directly across it in pulling wagon. This bunch, when I first noticed it about three years ago, was very small, but has steadily kept growing. 2. In cutting hay for horse, how long should it be cut and should the hay and grain be sprinkled with water or just the hay alone?

Cazenovia, N. Y. LEWIS DAVIS.

1. A fibroid tumor is present and there would be some danger of excessive bleeding if the jugular vein is involved in the growth, which, however, is unlikely, for we have removed many such tumors with success and have not the slightest doubt that any qualified veterinarian could perform the operation for you successfully. Removing the mass by dissection is the only available treatment in this case. 2. Old hay is best (six months) and it should be dampened with water if at all dusty. It is not necessary to wet the grain unless there is a tendency to heaves.

Conjunctivitis.—I have a mare 14 years old, whose eyes are swollen larger than a hen's egg and swollen around the eyes, and her eyes run matter. I have a horse that has a lump on the left side of his neck about half way between his head and shoulders; has been there five or six years. Was no larger than a bullet when first noticed; nearly as large as a goose egg now. Seems to be loose under the skin.

Santa Fee, Tenn. W. P. ADKISON.

1. Condition of eyes may indicate either periodic ophthalmia, conjunctivitis or pink eye. In conjunctivitis the swelling and inflammation are usually confined to one eye and due to the entrance of a foreign body such as a chaff. It may affect both eyes, however, where horse has been exposed to cold drafts, or has been standing in a whitewashed barn with the sun's rays falling into his eyes. In periodic ophthalmia, as often explained here, the disease comes and goes regularly until the animal becomes blind in one or both eyes. In pink eye the attack is accompanied by high fever, weakness, loss of appetite and swelling of the hind legs or all around. On general principles you should treat the case by administering a drachm of saltpetre three times daily in soft food and covering the eyes with a soft cloth, to be kept wet with a solution of one drachm each of sulphate of zinc and fluid extract of belladonna leaves in a quart of soft water. If lids remain very much swollen in a few days after this treatment has been kept up, smear them with a little of a mixture of one part citrine ointment in four parts of lard. 2. There is a fibroid tumor present, the proper treatment for which consists in having it cleanly dissected out and the wound afterwards treated with a solution of one ounce of sugar of lead, six drachms of sulphate of zinc and two drachms of carbolic acid in a pint of water. Shake well before using and apply it often.

Lameness.—Leucorrhœa. — My three sows get lame; they try to walk on the hind part of their feet. Will hardly get with pigs, and if they do they will drop them in about two months. One has some pigs two months old and is very lame. When they begin to want to go to the boar they discharge a clear solution with some hard white lumps in it about the size of a pea. They are running in the road and plenty of woodland to run in. Their feed is two ears of corn twice a day, and slop. J. J. STAFFORD.

R. 13, Sevierville, Tenn.

We should say that the hogs are exposed to much damp and are suffering with rheumatism. At the same time it is possible that running on hard roads makes their feet sore. It would be well to put up a suitable hog house and keep the hogs off the road, where they certainly do not belong. Also furnish them with a pasture of clover or grass and feed them well on milk slop of ground oats, middlings, bran, flaxseed meal and such foods, which go to form bone and muscle and tend to prevent the breaking down behind and weakness of the bone which is so common in hogs fed almost exclusively on corn. All sows having a discharge from vagina should be separated from other hogs and have vagina flushed out once daily for a week prior to coming in heat with a solution of a tablespoonful of baking soda in two quarts of warm water. If this trouble continues we would strongly advise you to change your breed of hogs, as the conditions described often indicate tuberculosis. It may be that the two troubles are due to similar causes, but we suspect that a change of blood is more required than anything else.

Lost Teat.—I have a cow that has lost the use of one teat about twelve months ago. Do you think that it can be restored again? Cow has not been with calf for two years but has given milk constantly, from three teats. JNO. M. COMPAUT.

Blanco, Texas.

It would be dangerous to interfere with the teat and in all probability any operation would do more harm than good. Should cow become fresh again an operation might be attempted were that quarter to fill with milk which could not find vent by natural passage. In all such cases there is, however, great danger of setting up acute mammitis of one or more quarters of the udder so that the teat should be left alone at next calving time unless that quarter fills with milk and is inflamed.

Calf Scour Cure. — Farmers and stock owners who are having trouble this spring from calf scours, will be interested in the experience of Mr. C. E. Andrews, of Lawrenceville, Pa., who writes as follows: "I had a valuable Durham calf taken with scours when two days old. I expected to lose him as I had many others. A neighbor told me about Hood Farm Calf Scour Treatment and offered me some of the medicine until I could send for more to C. I. Hood Co., Lowell, Mass. Although I thought the calf past help, yet a few doses of Hood Farm Calf Scour Cure brought him out all right." This remedy is advertised in our columns, and put up in two sizes at $1 and $2.50. It is the most successful remedy for scours that has ever been placed on the market and is saving stock owners a great deal of money. Every cattle raiser should write to C. I. Hood Co., Lowell, Mass., for information, and be sure to mention the P. F.

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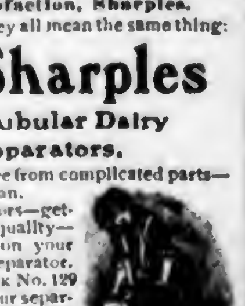

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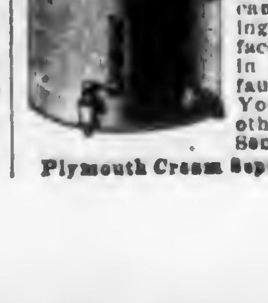

Plymouth Cream Separator Co., Plymouth, Ohio.

THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

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Talks on Timely Topics.

Fixing a Greenhouse Heater. — Through an accident my Hitchings greenhouse heater, which is a cast-iron affair and calculated for heating a small or amateur greenhouse (16x20 feet) had sprung a leak of a serious nature. The crack extended from near the bottom upwards to within a foot or so from the top, and then going half way around horizontally. After the advice of various experts and machinists had been vainly asked, a plumber told me of an iron cement known under the trade name "Smooth-on Cement," made in three different qualities for different purposes. I got the kind intended and used for castings. This is sold at 50 cents per pound, and to all appearances consists of fine iron filings. It is mixed stiffly with water, and then smeared on the defective place on castings, where it adheres firmly, becomes hard, and can be filed like iron. A dollar's worth of this cement will probably save me the necessity of buying a new heater. Undoubtedly this cement will come very handy for fixing up various other things in the household, on stoves, furnaces, for mending iron or copper tanks, etc. It may be a good thing for my friends to be told of the existence of such cement. I had never known of it before.

Choice Strawberry Plants. — I have this spring purchased a lot of new varieties of strawberries for which high claims of superiority are made, and some of which are offered and sold at $1 per plant. Among them we have the "Pan-American," a variety claimed to yield the bulk of its crop on new runners in the fall. Of course, when such prices have to be paid for plants, one is much concerned about giving them the very best chance to live and multiply. My way of handling such plants is as follows: When a lot is received, they are at once opened and taken to the greenhouse, where they are carefully potted and set in a place where they can have partial protection from direct sunlight and the best of care for a while. Afterwards they are plunged in cold frame, and kept there until we find just the place outdoors where we want them. Possibly the plants will do just as well if put into cold frame at once after being potted off; and here they may be left until quite late in spring. If I had to leave them until July before transferring to open ground, I would first transfer them to larger pots, or perhaps even better, to the ordinary wooden plant boxes, such as we use for tomato plants, eggplants, etc., and which are 4½ or 5 inches in cube. If the pots are small, the plants will soon fill the pots with roots and become what is called "pot bound." This, with plants of so much value, should be avoided. The cold frames in which strawberry plants are kept in this manner, may be covered with muslin or oiled paper covered sashes, at least for a while, and mostly as a protection against the direct rays of the sun before the plants have made much new root growth. Plants must be set in open ground by the time that they begin to make runners.

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"The P. F. is my main standby. I could not have done anything without it."—L. W. James, Cynthiana, Ky.

Current Comments.

Keeping Apple Butter.—Please tell me if there is any way that I can keep apple butter made from granulated sugar and apples (no cider) from working when it is placed in a warm room. Is there anything that I can put in it that will keep it from working that will not interfere with the pure food laws? H. LANDIS.
Woodale, Pa.

We should abandon the idea of relying on so-called preservatives for the prevention of fermentation in any of our food products subject to decay or deterioration by such fermentation. Salycilic acid is often recommended and still much in use for such purposes. It does, to some extent, arrest fermentation, and thus promotes the keeping qualities of food products with which it has been mixed. But it does it at the expense of both the flavor and the wholesomeness of the treated articles. Salicylic acid gives to apple butter, tomatoes and other canned or preserved vegetables or fruits, an insipid taste that takes all the enjoyment out of the eating, and it will be liable to arrest or impede the process of digestion at the proper time. Apple butter is usually made by boiling apples, mostly sweet ones, in cider, and if properly cooked, it will keep in paper-covered crocks, and in a reasonably cool room, almost indefinitely. I can see no reason for storing such apple butter, or any other canned or preserved article in a warm room.

Tomatoes for Market.—Please give me information in regard to raising tomatoes for market. I live on Blue River, 3 miles from the railroad. Vegetables of all kinds do well here. Land is mostly heavy, black soil, rather low for early spring garden in wet seasons like the present. I could get as much as 15 acres of sandy loam for garden if it will pay. Last year we had nice ripe tomatoes till Nov. 10th. Think I could count on them till Oct. 1st, generally. Where could I get best market, what kind is best, and how much ought they to make per acre? Also, what should they bring? W. L. HILL.
Bokchito, I. T.

I have no doubt that it will be easy enough for you to produce tomatoes if you have the land. The great question is that of the market. In most cases, the investigation into the market conditions must be left with each individual grower. Look around you, and see what chances you have for finding a local demand for your tomatoes or other products. The home market is usually the best and most reliable. If you have no market in your own vicinity, look up the conditions in the cities near you. On a very large scale, tomatoes are usually grown only for the canning establishments, and bring from $6 to $8 per ton, which on the basis of ten tons per acre, which is a fair average, gives the grower from $60 to $80 per acre as the gross receipts for the crop. Some growers far exceed this quantity per acre, but it is seldom safe to count on any great excess over the ten-ton estimate. In some places, early tomatoes pay quite well. In fact, if you have early, warm soil, and understand how to get a portion of your crop in advance of the general run of gardeners, you will seldom fail to make the business pay pretty well. Later in the season, when the bulk of the crop ripens, the markets are often overfilled, and prices below the point of profit. For early tomatoes you need an early start, using early varieties, such as Maule's Earliest, Earliana, and others, and push them along to the fruiting point as rapidly as possible. We sow our first tomato seed of the season in February, and transplant the young seedlings often, giving them proper space so as to keep them short and stocky. My favorite way is to grow them in plant boxes, each of which is a cube of four and a half or five inches, and set them into open ground about June 1st, when the fruit is already set.

Growing Beans.—How are navy or pea beans raised in your State, how harvested and threshed? R. O. BROWN.
Arthur, Ill.

The beans are usually planted about June 1st, in warm, well drained loam which need not be excessively rich. The rows are from 2 to 3 feet apart, and the plants to stand singly every 3 to 6 inches, or in bunches of three or four every 12 to 18 inches. Special tools and appliances are usually employed in planting, as well as in harvesting and threshing and even in sorting. The grower who must depend on hand labor for producing a crop of beans, cannot compete with the wholesale grower who has all the bean growing utensils. Before engaging in this business, on moderate or extensive scale, make sure that you will have the use of planter, puller, thresher and of cheap help in picking the beans over after they are harvested. There are, in this State, great districts in which field beans, not only of the navy variety, but also of other sorts, like Medium, Kidney and others, are a leading crop, and grown in fields of many acres. Here the crop can be made to pay well, simply because the best labor saving devices in planting, cultivating and harvesting are used, and people have learned how to handle the crop to best advantage.

Raising Pickling Onions.—Please give me a little information in regard to Barletta onions. I would like to know how late one could sow the seed to make onions for pickling, and whether I could sow them after early peas come off. I want to save as much as I can and get two crops. Our seasons up here in the mountains are short.
Elton, Pa. ROBERT BEDDIS.

The only safe way to sow Barletta, or any other variety, to make a good crop of pickles, is early in spring, or as soon as the ground can be gotten in proper working order. I have often tried to grow a crop of pickling onions after some early crop, like early peas, early beets or radishes, but invariably made a failure of it. The conditions in early spring are usually more favorable to give the crop a good start than a month or two later. It is also important to plant at such a time that the harvest will come in the usually dry time of early September.

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Points and Pickings.

For Description of wood box and other contrivances, watch the Short Cuts Columns.

The Value of the Products of the family gardens maintained on American farms is estimated to exceed $46,000,000 a year. If all farms had family gardens, as they should, the value of their products would reach $85,000,000 a year.

For a Fine Early Lettuce try Early Prizehead, sowing seed thinly in drill in open ground, where soil is extremely rich and full of humus. Thin plants early to stand a few inches apart, and keep soil well cultivated. For use, remove every other plant when partly grown, leaving the balance stand to reach full size. You will have fine lettuce for many weeks.

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A Reliable Field Fence.—Many of our readers will remember with pleasure the old reliable Hartman Stockade Field Fence, which used to appear with such regularity in these columns. It has made its appearance again and will be found among the advertisements which appear in the P. F. It is now being manufactured by the Cuyahoga Wire & Fence Co., Dept. M, Cuyahoga Falls, Ohio. It is the same thoroughly good and honest fence that it always has been. Many of our readers can attest its good qualities, for many of them have used it in the past and are using it now. It is entirely an interwoven fence—no wrapped up and down stays, no loose ends to unravel, no projecting ends to injure or ruin live stock, but a clean, smooth, strong fence that looks good, is good and lasts long. You can get it in four styles, large or small mesh, or large and small mesh combined, and in a great variety of heights. Its very method of construction provides for all necessary expansion and contraction. It will adjust itself to all extremes of heat and cold and always stand up; no sagging in the Hartman. Write the Cuyahoga people for latest catalogue, circulars, etc, and mention the P. F. when writing.

Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Foreign Raspberries.

Those who do not mind a little trouble to have something extra good should plant some of the varieties of European raspberries. The flavor of the fruit is much superior to that of ours. There is more care required with this class than with our own, because they will not endure the same amount of cold. The care consists in burying the canes on the approach of winter, just covering them with soil, or even tying the canes together with straw will answer. In the vicinity of Philadelphia these raspberries were very popular many years ago. An amateur, a Dr. Brinckle, undertook their propagation and the production of improved sorts, in which he was quite successful. Brinckle's Orange was one of his seedlings, and it is today one of the best, if not the very best yellow in cultivation. Other good kinds are Herstine, Hornet, Clarke, Franconia, Superlative, Fastolf, Fontenay, Knevett, etc. The burying of these canes in winter is no great task. In fact, in this vicinity many private growers do it with their ordinary raspberries, finding that the keeping in perfection of the canes, means a very large crop of fruit.

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Flowering Cherries.

What nurserymen know as flowering cherries are the many double flowered forms and weeping sorts now in cultivation, grown only for their ornamental character. They are very popular as lawn trees, doing much to make perfect the picture of a pleasure ground in early spring. For many years the variety known as the Chinese Double Flowered, was the only one known. It is still one of the best, its large double white flowers making a grand show. But the display is not all its own in these days. There are some half dozen double flowering sorts now; one, called the Japanese Double Red, is a beauty. The flowers are very large, of a beautiful pink when first expanding, changing to a light pink at last. The foliage of this sort becomes of a bright red hue in fall. In addition to the double ones there are grown for their ornamental features two or three of a drooping character. The one of all others to attract admiration is the Japanese weeping rose flowered. The drooping habit is very attractive, to say nothing of its flowers, which when in bud are of a bright pink, becoming much lighter when fully expanded. When grafted on common cherry stocks, at about six feet from the ground, with branches gracefully drooping, there is no other weeping tree of its season its equal.

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Horticultural Queries.

Green Fly. — I have some apple trees which were set out one year ago. The leaves are just coming out and they are completely covered with something that looks like small green lice. W. W. IRVINE.
R. 3, Towanda, Pa.

The insects are what are called aphis, or green fly. Generally they disappear in a short time without doing much harm. If you have not many trees you could force the flies off by using a common garden syringe and water. They would not be likely to crawl up again if washed off. Tobacco water made by soaking tobacco or tobacco stems in water until the water is well discolored, sprayed over the trees, is very disagreeable to the insects. Indoor plants are often attacked by the same insects. Florists destroy them by fumigating with tobacco.

Leaky Cistern.—Clematis.—My cistern, which is built by plastering cement on the earth wall, leaks, caused primarily by pressure from outside water. That is, the ground water, when the rains began last fall, pressed through numerous small holes in the cement, when the cistern was yet empty. How can this cistern be repaired so as to be absolutely water-tight? Can a coat of cement, say one-half inch thick, be plastered on the present smooth surface without pulling off, or is there any other way to accomplish the desired result? Please tell me how clematis can be propagated. JOHN JENSMA.
Montavilla Sta., Ore.

If the leaks are not bad ones, cementing it afresh, as you propose, will probably stop them. The pressure from outside water is very great. Cellar floors of dwellings have been known to be forced up by such pressure. If pressure is great in your case the re-plastering with cement may not stop the leaks. In that case there would be nothing to do but to increase the thickness of the walls, making a concrete of small stones and cement. My own cellar is cemented in this way. When the cellar was dug the workmen met water, leaving some 6 to 12 inches there in wet times. A thick cement floor was laid with cemented sides two feet up from the bottom. This was fifteen years ago, and I have had a perfectly dry cellar ever since. When seeds of clematis can be obtained sow them early in spring, and there should be good results. Clematis can also be increased easily by layering. Bend a shoot under ground, first slitting it slightly with a knife. Let the point of the shoot project above ground. By fall it should be rooted, when it may be cut off and treated as a separate plant. In commercial establishments the large flowered sorts are increased by grafting them on the roots of the common sweet scented one, flammula, on which they grow very well. Your best plan to follow will be layering. Do it as soon as the new shoots are of sufficient length.

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Rhododendrons are expensive plants, costing a dollar and upwards for flowering size, but their evergreen character and large heads of gorgeous flowers make them very desirable. They much prefer a fine soil to that of any other nature.

Cooking and Eating Cherry.—Those who want a cherry which can be used for cooking or for eating from the tree should plant some of the Duke section. The May Duke, Late Duke, Royal Duke and others are intermediate between the sweet and sour ones.

POULTRY.

This department is under the editorial charge of A. F. Hunter. All letters, inquiries and requests should be addressed to him at the Practical Farmer office, P. O. Box 1317, Philadelphia.

Dry Feeding the Chicks.

E. L. GILLHAM.

We used to grow chickens the good old way. Had what we called a hen house, which was better than farmers commonly had here. It was a building 11x16, two doors, gable roof, and was battened and painted. Common so-called Plymouth R., weight anywhere from 4 to 8 pounds, according to age and whether wings were sufficiently strong to enable the bird to get into the corn crib. One year ago I subscribed for three poultry papers, also purchased books on growing chicks and upon all other phases of poultry culture. After reading all I concluded the big part was nonsense, and now thoroughly believe that inside the next ten years feeding poultry in every stage will be much simplified. I concluded to try a plan of my own; simply to feed dry, crushed grain, beef scraps and milk and the chicks had a most beautiful blue grass range surrounded by fields of grain. I have had some experience growing hogs and did considerable experimenting with feed. I found that by using ground mixed grain fed dry I could grow a prettier, more shapely hog than by making a slop. Nothing under the sun fed in its natural state will blow up a pig to such an extent as a rich slop, and no pig will have the symmetrical appearance if so fed as one that is fed more in accordance with nature. I fully believe that such feeding is destructive to the digestive organs, and also fully believe the mash business for hens and chickens the same. Any mash will begin to sour soon after being eaten and I will guarantee you that if cracked or whole grain is given regularly (and not in spurts now and then) that upon examination of the crop at any time it will not have the sour smell so often found in mash-fed fowls. With dry feed a chick will not gulp a great amount of feed, and I really believe that with dry feed moistened with saliva it will not sour nearly so quickly as if moistened with water or milk. If my method of feeding will grow good, healthy pullets, weight from 7½ to 9½ pounds in eight to nine months, I believe that pullet is in better shape to lay, and if continued on dry feed will in two years (or at two years of age) lay as many or more eggs than a mash-fed chick, and then, not only this, but the eggs will be larger and more fertile, and when you come to sell the carcass it will have better weight. I know the eggs I am now getting are better in size, color and shell than I ever bought. I mean from 35 to 50 per cent. better in quality, and this I attribute to the dry-feed method. Dry feed properly fed means health, with no sour crop and bowel trouble. The time was when feeding mashes was considered proper in the dairy and for fattening beeves. Now it is more in accordance with nature to eat dry feed moistened with saliva, to promote digestion and health. Many of our best farmers are allowing the hog to make its own mash for the same reason, and I note articles in poultry papers on the same line. When I began dry feeding I had never seen an article upon it. I knew I could do better with hogs on dry feed but had not studied why. I knew I had too much to do to grow chickens by mashes. I planned my year's campaign before a chick was hatched, viz., best of mixed grain, sweet milk before the chicks all the time, beef scraps, charcoal continually and clover hay chaff for litter, with good range.

March 15th, 1902, I brought off my first hatch, and with the most unfavorable weather, in eight weeks to a day sold 49 broilers, average weight 1 pound, 15 ounces. Showed a pen at St. Louis Poultry Show. The cockerel, May 15 hatch, weight, without any extra feeding, 8½ pounds; one April pullet, 7¼; three March hatched pullets, 8, 8, 8½ pounds respectively. When chicks, also the above broilers, were fed first four weeks a dry chick feed, afterwards crushed corn, oats and wheat with 10 per cent. beef scraps, also milk. When good size, whole wheat at night, and sometimes, when very busy, it was neglected. Range, blue grass, clover, wheat fields, melon patches and corn fields. I have experimented with dry feed for little chicks for two years; the past year for all ages of poultry, with the best success. Having seen the growth of dry chick feed in this locality with proper means used in introducing it, my experiments have been with a view of feeding the best feed and going into the business. However, this has not influenced me to dry feed; it was the dry feed that started me to thinking of it. The healthiest and fastest growing chicks I have ever seen have been the ones I grew last year by artificial means and dry feed.

Wanda, Ill.

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Poultry Queries.

Golden Wyandottes and Buff P. Rocks. — A. I. M., Trooper, Pa., writes: "Will you or some P. F. reader please write about the Golden Wyandottes and Buff Plymouth Rocks as compared with White Wyandottes and Barred Rocks? These are my favorite breeds and I would like to have the buff color if they are as profitable as the others. I hoped to find something about them in the Pool a few weeks ago, but did not, only one party spoke of Buff Rocks." Very little is written about Golden Wyandottes because they are very difficult to breed to the desired color points; a "laced" feather (they are really Golden Laced Wyandottes) is exceedingly difficult to breed to standard requirements, hence it is purely a "fancy" fowl and only bred by fanciers for show purposes. Buff is a difficult color to breed true, but not nearly so difficult as a laced feather, and if you prefer a buff color take Buff Rocks or Buff Wyandottes; they are both excellent varieties and bred by many, who breed chiefly for practical qualities. They are very "fancy," too, and exactly the right shade of "solid buff" throughout is a very nice thing to breed. The record price, $300, was paid for the first prize Buff Plymouth Rock cockerel at the Boston Show the past winter. He was bred and raised in South Jersey, and bought by a Lebanon, Pa., man for $300, said to be the highest price ever paid for a "chicken!"

Poultry Yard in Orchard. — Edward Hollywood, Cornell, Mich., writes: "What is your opinion of making a poultry yard of a young orchard of 125 trees set 30 feet apart each way? It is the best place I have, and I thought to build the hen house on the north side of lot and have a high wire fence around the three sides. I intended to seed down about 8 feet wide in tree row to some good clover and it would leave space for scratching and dusting ground between, or I could sow sunflowers in two or three spaces, which would protect them from hawks and give them good feed in the fall. Do you know any good poultry book which is reliable to study and work from? I have the Black Spanish breed, which does very well in this Northern country." A young orchard (or any orchard) makes the very best location for a poultry plant. The shade of the trees is of great advantage to the chickens and the droppings of the chickens are of decided help to the trees; then, too, the scratching and dusting in the earth is a help to the trees. Don't seed the ground next to the trees; have the soil next the trees and out about as far as the branches reach, plowed and kept stirred with the cultivator. Sow your clover, sunflower seeds, etc., in the ten or fifteen feet of space between the reach of the branches. A good poultry book is "Profitable Care and Management of Poultry," just published, price 50 cents. We will send it to you postpaid on receipt of price. Why have you taken up Black Spanish? They are about the poorest layers in the whole list; they have been bred for the one point of a white face until the practical qualities are pretty much extinguished. Possibly you have Black Minorcas, and if so they are good layers; but are less good for all around profit than White or Buff Wyandottes, Barred, White or Buff P. Rocks, or Rhode Island Reds. Either of these would pay you much better than Black Spanish.

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The Health of Your Horse.—The horse like the man, is only capable of doing his best when in perfect health. The man that gets the best work from his horse, gets it at the expense of a little care and consideration for the animal's comfort. A valuable little book to horsemen is published by the Newton Horse Remedy Co., of Toledo, Ohio, in which symptoms are described, whereby ailments can be recognized, and in which remedies and treatment are given for specific diseases. The proprietors have built up a reputation that is famous on Dr. Newton's Heave, Cough, Distemper and Indigestion cure and they will be pleased to send the book free, to all who make a request for it and mention the P. F. when writing.

Stark Bros. Nurseries and Orchards Company.—To grow trees for the Northwest was one object in the recent purchase of the Silas Wilson Nurseries, Atlantic, Ia., by Stark Bros. Nurseries & Orchard Co., who have headquarters at Louisiana, Mo. Both companies are well known, the Wilson Nurseries having long been the largest industry, probably, in their county. The Stark Company, with a paid up capital of over a million, now own and operate nurseries as far east as New York State, where they have several; southern territory is supplied from their nurseries at Huntsville, Ala., and Farmington, Ark., while the West and Northwest are provided for from their establishments in Colorado. With the new acquisition, which they will develop into a larger enterprise than ever, they are now in a position to furnish hardy, strong trees for any climate.

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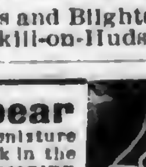

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PROF. W. F. MASSEY, Editor.

Philadelphia, May 16, 1903

The Tobacco Trust.

Now that the courts have decided that the Northern Securities Company is an illegal combination to the injury of trade and commerce, why is it that the Tobacco Trust, the so-called American Tobacco Company, is allowed to swallow up the entire tobacco business of the country? Not only has this combine bought up nearly every competing concern, and put the tobacco growers at its own mercy in regard to prices for their crop, but they have entered into the retail trade and are establishing stores all over the country for the retailing of cigars and tobacco. They are giving away cigars by the million on the streets, and giving to dealers large bonus in the way of extra cigars, and are thus driving out of business all the smaller manufacturers of cigars. Only a few days ago a company which has been making and selling cigars with success announced that they would close their factory because they could not compete with the Trust. We recommend this great octopus to the attention of the Attorney-General, for its widespread impediment to trade from the growers to the retailers is worse than the merger of railroads.

* * *

Cow Peas in the North.

We are glad to note the conservative remarks in the Ohio Farmer by Mr. Alva Agee in regard to the Southern cow pea and its value in Ohio, and also to note the fair and equally conservative remarks by Editor Chamberlain on the same topic. We have not been surprised at the lack of success which Mr. Chamberlain has had in the heavy clay soil of Northern Ohio with this hot weather plant. He is rather too far North for the best success with the pea, especially on heavy soil, while there are reports of perfect success considerably north of him in warm, sandy land. The character of the soil makes a world of difference with the cow pea anywhere, and more especially when it is rather far from home. We agree, too, with Mr. Agee in believing that in the lighter soils and more southern part of Ohio the experimenters have erred in trying only the extra early varieties which in any section make a comparatively small amount of forage. Where there is warm and frostless weather during June, July and August there is no doubt that on a warm soil the Large Black pea will give far greater satisfaction than the Whippoorwill or the extra early varieties. Anywhere south of the 40th parallel in a moderate elevation and warm soil the Black peas will be better than the bush varieties, and for hay making, the Clay is nearly, if not quite, as early as the Large Black and a heavy forage maker. But for the section where Mr. Chamberlain lives we are of the opinion that the Whippoorwill pea is about the best that can be used, and we do not look for any great success even with it. The glacier clays of Northern Ohio grow clover too well for the farmers there ever to think of substituting any other legume for it in their regular rotation. Our advocacy of the cow pea has never meant that farmers who can grow clover well should ever, in the North, substitute the pea for it. But we do know that as a catch crop, and a means for tiding over a drought, the pea is a valuable crop over a large portion of the country north of the Ohio River. In some sections, as in Southern Illinois, it is taking the place that clover failed to fill and is becoming of great value. We agree with Mr. Chamberlain in advising the farmers on the heavy clay soils north of 40 degrees to experiment cautiously and on a small scale till they find what they can do with the plant, and above all to get seed grown as far North as possible. Seed from North Carolina does very well as far north as Southern Pennsylvania, but when we go further north the seed from Delaware and northward will be better, and seedsmen are endeavoring to have seed grown North so that there will be a gradual acclimatizing and a better prospect for success. Northern farmers should remember that the cow pea is a tender plant, and that planting before the ground is warm will give it a poor show for success. In the North, too, the practice of sowing broadcast will not be as uniformly a success as drilling like beans and cultivating a few times. The only objection we have to the drilling is that the heavy vines fall over and the mower will skip over many of them. Last summer we had to go over the drilled peas with the scythe and cut them loose. One of the most successful farmers in Virginia uses only about a peck of seed per acre and considers this enough. Then, as Mr. Agee says, the hay is worth, ton for ton, for its protein, as much as wheat bran, and dairymen can profitably substitute it for the purchased bran while improving their soil at the same time. The pea then, is too valuable a forage crop to be lightly turned down where it can be made to succeed.

* * *

Where to Invest Savings.

A business man who makes money in his business generally uses it to extend and increase his business. He finds that capitalists are ever ready to furnish means for the advancement of a successful business, while they avoid the scheme of the promoters of enterprises that are untried and which offer great profits associated with still greater risks. But the farmer who has made some money in his farming seems too often to be the easy prey of the get-rich-quick-man. If you have made some money at farming, why not use it to increase your ability to make more in the same way, and keep your means under your own control? Not in every case by buying more land, for nine farmers out of ten have already land enough for their purposes, but in making the land you have more productive. One of the most successful farmers we know has never cultivated but 36 acres of land, and has raised a large family and educated his children, and still sticks to the 36 acres, and is mainly concerned in increasing the crops on the little farm, investing there all that he makes. He lives in a cotton country, but only plants six acres in cotton and gets a bale and a half per acre while his neighbors think they are doing fairly well to get half a bale. And on that little farm he raises nearly everything in the way of food for man and beast that is needed and that the climate will produce. If a farmer has capital enough to work profitably a large farm and to do it as thoroughly as he would a smaller one, the large farm is the one for him. It is simply a matter of administrative capacity and capital, and the farmer, like other men in business, should use his surplus to extend his business, and of all things should avoid the glittering promises of the promoters of risky schemes away from home, where his money will be intrusted to men of whom he knows nothing. Your farm is your best savings bank. Increase your deposits there and get big dividends.

* * *

After the Wheat Harvest.

It will be a comparatively short time all over the wheat growing regions before the crop is harvested, and the present condition of the fields is a matter that needs attention. If the farmer has a good stand of clover he is fortunate. But here and there all over the land there will be found fields where clover has failed, and the farmer is bothered to know just what to do with that field to keep up his regular rotation. If he is south of the 40th parallel and not in too elevated a section, where the nights may be too cool, there is no crop that will help him more than the Southern cow pea. Sown in its northern limit after harvest it will probably not reach sufficient maturity for hay making, but it will furnish an abundance of pasturage late in the season, and will help to make another crop of wheat on the same land, which can be treated in the same way and the dead peas left on the ground for the corn crop the next spring so as to bring the field in as it would have come with a season of clover, and the two sowings of peas will probably do as much good in the improvement of the soil as the clover would have done. The value of the cow pea to the Northern farmer comes in right here when clover fails Not to supersede clover, but to help when clover refuses to help. No farmer on good wheat land between 39 and 40 north latitude should ever think of putting any crop in the place of clover, but at times may need help to get his land to give a stand of clover. And this is just what the cow pea will do for him. South of 39 latitude and in a moderate elevation the cow pea becomes of greater importance, and on sandy soils South, where clover uniformly fails, the cow pea is the clover for the farmer, and will enable him to repeat the legume crop more frequently in a short rotation from the short time it takes to make the crop. There are few localities north of the 39th parallel where the pea will have a great value as a hay crop, but for pasture in dry weather and as a soil improver it has value far north of this especially on warm, sandy soils. Those of us who have made a study of the Southern pea know well its limitations and we never suggest to the Northern farmer the use of the pea except as a means for taking the place clover has failed to fill, and to tide over a drought in late summer. If clover is all right, then you are fortunate. But when the rag weeds appear, do not let them go to seed. The idea seems common among farmers that rag weeds are a necessary intruder on stubble fields. But rag weeds can be abolished just as other weeds can. Mow the rag weeds as soon as tall enough to get hold of them and the stubble, and if needed, mow them a second time, to prevent their seeding, and you will soon have few rag weeds on your land. Clean farming is just as possible with wheat as with any other crop raised on the farm.

* * *

NOTE.—The Editor frequently gets letters of inquiry of importance to the writers, but not of sufficient general interest to answer in the paper. When a stamp is enclosed he always gives these a personal reply. Lately we have had several letters the signature to which, and the postoffice address were so indistinct that we sent replies on a venture as near as we could guess, and the letters come back to us "uncalled for" or "unknown there." Please write your name and postoffice plainly. Anyone who has not had a reply may consider this for them and write again, and we will try over again. When a man writes his name illegibly and the postoffice, too, the post mark is certain to be undecipherable also.

* * *

The Cream of the Bulletins.

University of Illinois Agricultural Experiment Station, Urbana, Ill. Bulletin No. 80. Methods and Results of Field Insecticide Work Against the San Jose Scale in 1899-1902. By S. A. Forbes, State Entomologist.

The wide spread of the pernicious scale insect in the various States has rendered the means adopted for its destruction of great importance in every part of the country. The present bulletin details the work done in combatting the scale with hydrocyanic acid, kerosene emulsion and the California mixture of lime, sulphur and salt. Without entering into the details of the work in the numerous orchards where it was practiced we will give here the general summary of the work and the conclusions reached. There were in use four different methods during the winter during the past three years, hydrocyanic acid gas, whale oil soap, kerosene emulsion and the California wash of lime, salt and sulphur. The first method is by fumigation and the others by liquid spraying. All were found to be efficient in the destruction of scale under favorable conditions, but the operation of fumigation is practically restricted to trees of small size and in comparatively mild and quiet weather. The California wash has an evident advantage in persistence of effect, which amounts to an appreciable protection of the tree against immediate reinfection. The four insecticides differ materially in safety, in cost and in convenience of application. Fumigation with hydrocyanic acid gas and spraying with the California wash are perfectly safe to all trees if applied after the leaves have fallen and before the young leaves put out; whale oil soap is likely to destroy the fruit buds of the peach if used before these swell in the spring, and kerosene emulsion in strength sufficient to insure the destruction of the scale is uncertain in its action on the more delicate trees, the peach especially, and on those in poor condition. Serious injury has been done to the peach and in one case to the apple, by an emulsion containing only 20 per cent. of kerosene, which is rather below the usual percentage used for the scale. A 25 per cent. solution was safe to the apple and pear, but dangerous to the peach. As to the cost, the equipment for fumigation with hydrocyanic acid gas is far more expensive, especially if the trees to be treated are large, but the sprays are all applied with the same apparatus. The cost of the spraying materials and their application is not materially different, and will vary with individual conditions. With regard to the cost of the materials the fumigation method is much the most expensive. In one case where the trees were of medium size or less the cost was nine cents a tree for materials, while at another place, with large trees the cost of materials was 18 cents a tree. In this latter case where whale oil soap was applied to the largest trees it was used at a cost of seven cents a tree. In two other orchards the cost of the lime, salt and sulphur mixture for the California wash was two to three cents, according to the size of the trees and the average cost of kerosene emulsion applied to over 5,000 trees was two cents each. In convenience of application the preference belongs clearly to the kerosene emulsion and the California wash, the application of whale oil soap being often difficult on account of the solidifying in cold weather and the stopping of the hose, making the application laborious and complicated for the trees above a medium size. It follows, then, that the best insecticide and method for common use against the San Jose scale is the California wash used by spraying in winter. This is the conclusion that nearly all investigators are coming to. The great inconvenience and expense, to say nothing of the danger to the operator in the use of the hydrocyanic acid gas will always limit its use to nursery stock in buildings, and will forbid its use in the open orchard. The impression that got abroad in regard to the California wash not being effective under Eastern conditions arose from the fact that it did not at once kill all the insects. But it is now found that it keeps at it while other sprays only act at the time being, and in the end will not only destroy the scales but will prevent new ones from locating on the tree. Just as in California, it has been found the safeguard of the orchards, it will be found in the East, we believe. In all the recent work at other Stations the results are the same as found in Illinois.

Our Business Corner

THE FARMER CO.,
S. E. Cor. Market & 18th Sts., Philadelphia.
HENRY HARRIS, Business Manager.

Special Advertising Representative
S. E. Leith, New York.

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Garden Seeds and the P. F.

Have you made your garden? It is a timely question. Another timely thing is the P. F. Seed Combination. A dollar due bill, good for seeds, plants or bulbs, and the P. F. for one year for only $1.25, only twenty-five cents more than the cost of either alone. The seeds, plants and bulbs are of your own selection, furnished by one of the largest and most reliable seedsmen in the United States. The good housewife, by inducing her husband to send the necessary $1.25, can get just what she wants to beautify the home flower garden, and the cost is only a trifle, out of all proportion to the enjoyment derived from the investment. Thousands of these due bills have been sent to our subscribers in past seasons, and they are the most popular premium we have ever used. If your seed wants come to more than a dollar, the due bill is good for a dollar on the whole purchase. Another thing; if your subscription is paid to the end of the year and you want the due bill, send $1.25, which will pay for the due bill and your subscription for 1904. Tell any of your neighbors who do not take the P. F. of this seed and paper combination. They ought to have it by all means. Good seeds and a good farm paper go hand in hand, and that is what this combination means.

COMMERCIAL

Philadelphia, May 9, 1903.

WHEAT.—	
No. 2, red	80 @ 80½
No. 2, Penna. and Del.	81 @ 81½
CORN.—	
No. 2, spot and May	50 @ 50¼
No. 2, yellow, local trade	54
OATS.—	
Not graded white, clipped	37¾
No. 2, white natural	37
No. 2, white, clipped	39 @ 40
No. 3, white natural	38½
No. 3, white clipped	38¼
LIVE POULTRY.—	
Fowls, hens, per lb.	13 @ 13½
Roosters, per lb.	10 @ 11
Spring chickens, per lb.	28 @ 33
DRESSED POULTRY.	
Fresh killed fowls, choice	14
Fresh killed fowls, average	12½ @ 13½
Fresh killed broilers, nearby	40 @ 45
Frozen fowls, average	12½ @ 13½
Frozen broilers, nearby	28 @ 30
Frozen roasters, nearby	10 @ 17
Frozen broilers, Western	19 @ 21
Frozen turkeys, young toms	18 @ 19
BUTTER.—	
Western creamery, extra	22½
Western creamery, firsts	21½ @ 22
Ladle packed	14 @ 16
Prints, nearby, extra	22 @ 23
Prints, nearby, firsts	21
EGGS.—	
QUOTATIONS AT MARK.	
Nearby fresh	16
do do free cases	16½
Western, choice, free cases	16 @ 16½
Southern do do	15 @ 15½
So. Western do do	16
Recrated, 1@2c. above wholesale price.	
CHEESE.—	
N. Y., f. c. small—	
Fall made, fancy	14¾ @ 15
Good to prime	14 @ 14½
Fall made, fancy, large	14¾
Good to prime	14 @ 14¼
State, part skims, prime	7 @ 10
APPLES.—	
Northern Spy, per bbl	2.00 @ 3.00
Rox Russets, per bbl	2.25 @ 2.75
Golden Russets, per bbl	2.00 @ 2.25
VEGETABLES.—	
Asparagus, So., bunch	10 @ 25
Beans, So., per ½-bbl. bas.	2.00 @ 2.50
Beets, Fla., per 100 bun	2.00 @ 3.50
Cabbage, So., bbl. crate	1.25 @ 1.50
Cucumbers, Fla., per crate	1.50 @ 2.00
Cucumbers, per bas	1.75 @ 2.50
Eggplant, Fla., per box	2.50 @ 3.50
Lettuce, So., per ½-bbl. bas.	1.00 @ 1.75
Kale, So., per bbl	50 @ 60
Peas, So., per ba. bas	1.25 @ 1.75
Radishes, N. C., 100 bun	50 @ 75
Squash, So., per 1-3-bbl. bas.	75 @ 1.25
Tomatoes, Florida, crate	1.50 @ 3.50
POTATOES.—	
White, Pa., per bu.	70 @ 72
do New York, per bu	68 @ 70
do Western, per bu.	55 @ 65
do Southern, prime, bbl	4.00 @ 4.50
do do medium, per bbl	3.00 @ 3.50
Sweets, Jersey, per basket	45 @ 50
BEANS AND PEAS.—	
Marrows, H. P., per bu	2.60
Scotch peas, per bu	1.70
Green peas, per bu.	1.65
COTTON.—	
Cotton, per cwt	10.85
HAY AND STRAW.—	
Timothy, No. Pa., choice, l'g.	20.50 @ 21.00
do Western	20.00
Timothy, mixed	14.00 @ 17.00
Straw, straight rye	17.00 @ 17.50
Wheat	11.50 @ 12.00
Oat	9.50 @ 10.00
FEED.—	
Bran, bulk, winter, per ton	17.50 @ 18.00
Bran, sacked, spring	17.00 @ 17.50

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle steady to a shade easier.

Extra steers	5½ @ 5¾
Good steers	5¼ @ 5⅝
Medium steers	4¾ @ 5
Common steers	4½ @ 4¾

CALVES.—

Calves fairly active and about steady for best grades.

Extra calves	7¼ @ 7½
Fair to good	6 @ 7
Poor and common	4½ @ 5½
Grassers	3 @ 4

HOGS.—

Hogs lower.

Fat hogs, Pa., Del. & Md.	7 @ 8¾
Fat hogs, Western	9½ @ 9¾

SHEEP.—

Sheep and lambs about steady.

Sheep, extra clipped	5½
Sheep, good	4½ @ 5
Sheep, medium	3½ @ 4½
Sheep, common	2½ @ 3½
Lambs, spring, each	2.50 @ 5.00

The New York Market Review.

The lower range of prices for butter which developed last week have been maintained, and stock has moved more freely, buyers showing a general disposition to take butter at the reduced quotations. This is the season when prices for butter reach almost the lowest level, and there is some surprise that they do not drop lower. Hay is high, and grass is not here, and new butter shows "between the seasons" flavor, but all goods that pass inspection bring from 18 to 22c. per lb. In spite of this, however, even the best of the new butter lacks keeping qualities, and it is for this reason that it is marked down. It must be sold and consumed within a short time after receipt. Storage companies and exporters will have none of it at any price. A good deal the same condition prevails in the market for cheese. Old cheese is pretty well cleaned up, and new cheese is still mostly off quality. There has been a slight improvement in the past week, but not sufficient to affect the market materially. Really fancy cheese is held firm at 12 and 12½c. per lb., but lower grades are shaded down to prices for skims, which are plenty and irregular in quotations. Exporters picked up some 8,000 boxes the past week, and this relieved the market of any tendency to congestion. Speculators also took a fair amount.

Live poultry has not had a very active market, and only scattering lots of spring chickens have been arriving, which sold slowly and unevenly, especially those from Southern points. The large accumulations of live fowls and roosters of last week hung over and made the market dull this week. Turkeys are in moderate supply, but dull and weak. Prime ducks and geese are steady, and moving easily. Live pigeons are in fair demand at good prices. Fresh killed iced poultry consists of a large proportion of fowls, which have become somewhat heavy and dull. Chickens are in small supply, especially from the West, and the market is generally pretty firm. Nearby spring ducks are slow, but not in excessive supply. Tame squabs are in fair supply, and steady. In frozen poultry turkeys are dull and dragging, and fancy dry picked broilers and large roasting chickens steady. Ordinary frozen chickens are dull and plentiful. Comparatively few frozen fowls are held in stock, and ducks and capons are not in large supply, although the outlet for them is comparatively small. The market is firm for top grades of fresh eggs, but packing stock and Western eggs are all quiet and easy.

The weather conditions throughout the world affected the grain market the past week, checking the bullish advance, which was led by wheat and supported by corn. The weather is generally favorable for good crops. Frost injury and insect destructions are chiefly local and not widespread. Exports of wheat have been very satisfactory, and considering the high prices of wheat they are encouraging. The interior movement increased, and the world's stocks decreased very materially. Corn reached its highest level, and then declined in sympathy with wheat. Trade is slow in cash and futures. Seaboard clearances were small, and also the interior receipts. English markets closed a trifle lower. Oats in the West appeared steady, but they were not very steady here. Country offerings are small, but receipts here are liberal. There is some improvement in the grading, which will help the general outlook. Hay has declined a little under heavier shipments from Ohio and Michigan. Prices were reaching prohibitive figures, and fortunately for consumers there is relief in sight in these Western receipts. Prime hay is still $1.10 per 100 pounds. There is a better feeling for straw, and selected long rye straw is worth 85c. Common lots of straw are neglected. There is a slight improvement in dried beans, but in order to reach outside quotations stock must be very choice. Stocks of red kidneys are small and held very firm. White kidneys are slow, and State marrows must be choice to reach $2.65 per bushel. In honey supplies are light, but trading is not very active. Old prices are fully maintained, however. There is some slight improvement in the wool situation. Prices are fully maintained, and manufacturers show more disposition in some quarters to take additional stock. Otherwise there is no change. Hops continue dull and easy, with holders unwilling to force sales lest prices be further reduced. Brewers and exporters are apparently content to wait.

G. E. W.

* * *

New York, May 9, 1903.

WHEAT.—	
No. 2, red	83½ @ 83¾
No. 1, Northern Duluth	87½ @ 87¾
CORN.—	
No. 2	54
No. 2, white	54
No. 2, yellow	54
OATS.—	
No. 2, white	40½
No. 2, mixed	38
No. 3, white	38¼
HAY.—	
Prime, large bales, 100 lbs.	1.15 @ 1.20
No. 1	1.05 @ 1.10
No. 2	1.00
BUTTER.—	
Creamery, extra, per lb.	22
Creamery, firsts	20½ @ 21½
State dairy, fresh, tubs—	
Fancy, per lb.	21
Firsts, per lb.	19 @ 20
West. Imitation Creamery—	
Finest, per lb.	19
Good to prime	17 @ 18
Western Factory—	
Fresh, fancy, small tubs	15½
Good to prime	14½ @ 15
Packing stock, solid packed	13 @ 15
Rolls, fresh, com. to prime	13 @ 15
OLD CHEESE.—	
State, f. c.—	
Fall made, colored	13 @ 15
State, f. c., large—	
Fall made, white	13 @ 14¾
NEW CHEESE.—	
State, f. c., small, choice	12¼
Fair to prime	10 @ 11¾
Large colored, choice	12¼
Large white choice	12¼
State, light skims—	
Choice	9
Part skims, prime	6½ @ 7
Fair to good	5½ @ 6
Common to good	3 @ 4
Full skims	2
LIVE POULTRY.—	
Spring chickens, nearby, lb.	25
Southern, per lb.	18 @ 20
Fowls, selected, heavy, lb.	13
Roosters, young, per lb.	8
Turkeys, per lb.	10 @ 11
Ducks, average, per pair	70 @ 1.00
Geese, average, per pair	90 @ 1.25
Live pigeons	30 @ 35
DRESSED POULTRY.—	
FRESH KILLED ICED.	
Turkeys—	
Young hens & toms	15
Fair to good	13 @ 14
Old	16 @ 17
Broilers—	
Phila., 3 to 4 lbs. pair, lb.	35 @ 40
State & Penna., 3 to 4 lbs. to pair, per lb.	25 @ 30
Balt., d. p., 2 lbs. per pair.	45 @ 55
Fowls, West., small, fancy	13½
Dry picked, small, fancy	13½
Heavy	13
Southern & So. Western, d.p.	13 @ 13½
Scalded	13 @ 13½
Spring ducks, nearby, per lb.	22
Squabs—	
Prime, large, white, doz.	2.75
Mixed, per doz.	2.25
Dark, per doz.	1.50 @ 1.75
FROZEN.	
Turkeys, young hens, No. 1	18
Roasting chickens, large and soft meated	10 @ 17
Average No. 1	15
Broilers, scalded, No. 1	16 @ 18
Fowls, No. 1	13½
Capons, choice, heavy	18 @ 20
Medium size	16 @ 17
Ducks, No. 1	16 @ 18
EGGS.—	
QUOTATIONS AT MARK.	
State, Pa., and nearby—	
Fancy selected white	17½
Fresh gathered, firsts	16 @ 16½
Western—	
Storage packed, firsts	16¼ @ 16½
Fresh gathered, firsts	16
Southerly sections	15½
Ky., fresh gathered, firsts	15½
Tennessee and other Southern—	
Fresh gathered, firsts	14¾ @ 15
Duck eggs, Baltimore, doz.	23
Western and Virginia, doz	20 @ 22
Tenn. and other Southern	18 @ 20
APPLES.—	
Spitzenberg, prime, per bbl.	2.00 @ 3.50
Russet, per bbl.	1.50 @ 2.75
King, per bbl.	1.75 @ 2.50
Ben Davis, per bbl.	2.25 @ 2.50
Baldwin, per bbl.	2.00 @ 2.75
Greenings, per bbl.	2.00 @ 3.00
GREEN FRUITS.—	
Oranges, Cal., blood, box	2.50 @ 3.25
Oranges, Cal., blood, ½ box	1.50 @ 2.25
Oranges, Cal., navels, box	2.25 @ 3.50
Pineapples, Fla., 24s-36s	3.00 @ 3.50
Strawberries, Char., per qt.	10 @ 18
Strawberries, N. C., qt	5 @ 12
Strawberries, Nor., qt	8 @ 11
POTATOES.—	
Fla., Rose, new, prime, bbl.	3.50 @ 4.25
Rose, new, seconds, bbl.	2.00 @ 3.00
Red, new, per bbl.	3.25 @ 3.75
So., second crop, per bbl.	2.00 @ 3.00
Charleston, Rose, prime, bbl.	3.00 @ 4.00
Chilis, prime, per bbl.	3.00 @ 3.75
Long Island, bbl.	1.75 @ 2.12
Maine, per sack	1.75 @ 2.25
State & West., bulk, 180 lbs.	1.50 @ 1.87
Per 168-lb. sack	1.50 @ 1.80
Western, per 150-lb. sack	1.40 @ 1.50
Sweets—	
Vineland, cloth top bbl.	2.75 @ 3.75
Other So., Jer., d-h bbl.	2.25 @ 3.25
South Jersey, per basket	1.00 @ 1.25
Del. and Md.	1.00 @ 1.25
VEGETABLES.—	
Asparagus—	
Colossal, per doz.	3.00 @ 4.50
Extra, prime, per doz.	2.25 @ 2.75
Prime, per doz.	1.50 @ 2.00
Short cut, per doz.	1.00 @ 1.50
Culls, per doz.	75 @ 1.00
Beets, old, per bbl.	40 @ 60
Beets, Charleston, per 100	1.50 @ 3.00
Beets, Fla., bu. crate	50 @ 1.00
Charleston, per 100	1.00 @ 3.00
Cabbage—	
Charleston, new, crate	1.50
N. C., bbl. crate	1.00 @ 1.25
Norfolk, bbl. crate	75 @ 1.25
Cucumbers, No. 1s, per doz.	50 @ 75
Florida, crate or basket	1.50 @ 2.25
Celery, Fla., fancy, crate	1.00 @ 4.00
Lettuce, nearby, per bbl.	1.00 @ 2.50
Southern, per basket	75 @ 1.25
Hothouse, per doz.	30 @ 75
Peas, So., 1-3-bbl. basket	1.00 @ 2.25
Radishes, per 100	75 @ 1.00
Norfolk, ½-bbl. basket	50 @ 75
Rhubarb, per 100 bunches	1.50 @ 2.50
Spinach, per bbl.	1.50 @ 2.00
Turnips, N. J., per bbl.	1.00 @ 3.00
Tomatoes, Fla., fancy, car.	1.00 @ 3.50
Onions—	
Hard stock, yellow, bbl.	1.00 @ 2.00
Hard stock, red, bbl.	1.00 @ 2.00

* * *

WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.	
XX and above	30@31
X	28@29
Medium	29@30
Quarter blood	28@29
Common	25@27
UNWASHED (light and bright.)	
Fine	19@22
Medium	21@22
Quarter blood	12@22
Coarse	20@21
UNWASHED (dark colored.)	
Fine	16@17
Fine medium	17@19
Medium and quarter	18@20
Coarse	17@18
COMBING AND DELAINE FLEECES.	
Washed fine Delaine	31@33
Washed medium	30@31
Washed low	29@30
Washed coarse	27@28
Unwashed medium	22@23
Unwashed quarter blood	22@23
Braid	21@22

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Final Reward.

VIOLET WHITE.

Ah, friend, can you not believe that 'tis true,
That our Heavenly Father is love?
That He gives to each one vastly more than his due,
In that beautiful home above?

That those who are burdened with toiling and care,
Who weary, and never know rest,
Shall have pleasures unthought of, blessings so rare,
In that home of the ransomed and blest?

If we open the door of our hearts to the Lord,
He'll enter and fill us with peace;
If we fashion our lives by His precious Word,
He maketh our joys to increase.

Ah, He makes us most sure of a final reward,
In that city all jewels and gold,
If we are but faithful and true to the Lord;
And He in His arms will enfold.

From pain we'll be free, from sorrow, from fright;
There's nothing that wearies, no care,
But all is delight, is day and not night,
When that glory with Jesus we share.

Farina, Ill.

[In reply to Julian Cook's lines in issue of P. F. of April 11th.]

Standard of Teachers.

MRS. F. R. CORNELIUS.

The teachers in our public schools exert an influence upon our children next to that of a mother. Especially is this true of those who have charge of the primary departments, in which tots of five and six enter the arena of learning. Children of this age are very impressionable, with minds of great plasticity; and the hands that have the moulding of these should be as near perfection as humanity can reach. The influence of a teacher is almost limitless; the extent of such can hardly be realized. Seeds may be sown in the childish mind that will develop either into thorns or blossoms. By no means is mental ability the only requisite of a teacher, but morality of the highest type is very essential. One might possess, if such a thing were possible, all knowledge, past, present and future, and yet be utterly unfit to train the mind of a single child. Those placed in positions to decide upon the choice of teachers should be fully capable of judging of the qualifications of a true teacher. No political influence, no religious influence, neither pity nor favoritism should weigh for or against the selection of any teacher. But he should stand on his own merit alone—one of clean habits, moral soundness, sufficient physical strength, a thorough knowledge of the subjects to be taught and ability to rightly present them. The morality of our schools, as well as our homes, has need of improvement. With instructors at the helm, possessing the essential qualifications of a true teacher, much good can be accomplished for the betterment of our children, and a lasting benefit to future generations.

Small Fruit Farm.

CHIP HENDERSON.

When you go into a family that comprise a contented wife and several healthy, ruddy-faced children, you can reasonably conclude that family gets the benefit of a variety of small fruit. Of all small fruits the strawberry easily heads the list. Next comes the grape, then the raspberry, blackberry, currant and gooseberry, although the latter variety I find not very desirable. The advantages of small fruit enumerated above are, 1. Their cheapness as sold by many plant specialists. 2. The small amount of ground they occupy. 3. Earliness coming into bearing after being set out, and 4. The resulting abundance of fruit when intelligently managed. Small fruits do best on light, well drained soil that has been for several seasons cleanly cultivated and manured. Strawberries should be set out in rows 40 inches apart, either in the fall or early spring (I prefer the latter time), set 18 inches in the row, and secure an early and a late variety, to give a succession of berries. Use the hoe and cultivator, allowing the runners to set and make a matted row a foot wide. In the fall mulch heavily with leaves or straw. Unleached wood ashes are the best top dressing for berries and grapes. Strawberries can stand for three seasons before being plowed up and renewed.

Grapes should be set in rows 8 feet apart, with a vine every 10 feet. The second season set a 7-foot post every 20 feet, with end-posts well braced. On these stretch three wires, the first 2 feet above ground, one at the top, the middle wire between the two. Allow about three laterals to grow up from the strongest right and left arms of the vine, and each fall prune these back to the first buds. Also prune the fruit vine about two weeks after it sheds the bloom, cutting at two leaves above last bunch. In setting out get at least four varieties, with the old reliable Concord for main crop. Be careful not to break or damage vines in gathering small fruits. Raspberries, blackberries, currants, etc., are all cultivated and propagated alike. Two feet distance should be allowed in setting in rows at least 40 inches apart. Cut the main stems to 3 feet in height in the winter, cutting out entirely the old stalks. As to what varieties to plant, consult a successful fruit specialist nearest to you, as some varieties that succeed best in one locality will be almost a failure in another.

Do not accept plants as a gift unless you are reasonably sure they are true to name and come from one who makes fruit culture a success. And do not neglect to keep the ground clear of grass and weeds through the summer, after the vines have ceased to bear, for if you would be rewarded with an abundance of fruit, finer than the average, you must give it attention during the growing season. You cannot use too much elbow grease or fertilizer on a small fruit patch. And do not fail to can a large part of the yield for winter use—it will curtail the store account and keep the doctor's buggy away from the front door.

Murfreesboro, Tenn.

Raising Chicks.

MRS. J. V. WELLS.

The first step in the business is to have a good strain. If for laying use a small variety, and if for broilers one of the larger. Select the choice pullets from last year's hatch. The better your flock, the more pride you will have in them and the better care you will give them. Keep penned by themselves and keep them healthy by feeding sparingly with nitrogenous foods, fresh water and giving plenty of exercise. If raising on a small scale, would advise the natural way, allowing chicks to run with hen, which gives them plenty of exercise and a variety of food. Give plenty of fresh water, grit and what dry food they will pick up at a meal. Keep their quarters clean and free from lice, cleaning twice a week and using some good louse killer. The first step in artificial incubation is to purchase a good incubator, not to exceed 360 eggs capacity. Place in a dry room, free from odors and drafts. Have perfectly level, which insures an even temperature all over egg chamber. Run about three days before putting in eggs, to be sure it is properly regulated. Start eggs at 101½ and gradually raise temperature to 103 at the end of ten days. Keep at this temperature till hatching, then allow it to go higher. One hundred and six will do no damage, and will help to liberate chicks. We use very little moisture, making a hatch from 65 to 84 per cent. of fertile eggs. After hatching leave in incubator twenty-four hours with plenty of ventilation. Have brooder heated to 90 degrees. When taking chicks from incubator to brooder, keep covered to prevent them chilling. Feed first when thirty-six hours old. Give water, a little grit and a very little dry food. Keep hungry enough to make them exercise. If chicks huddle together around heater they are too cool. If they rush to the corners the heat is too high, but if they sit comfortably around under hover, with heads peeping from under curtain, you may know they are all right. The chicks' bodies are the best thermometer. We use a two-room brooder, the room with the heater being the brooder proper, and the other a runway and scratch bed. A board is put between the rooms for the first few days. After that a curtain is hung between with slits cut in it. Be careful that they do not run off and huddle together in the cold corners when first let into runway. Have plenty of light and avoid overheating from lamp or from sun in middle of day. We set up twelve-inch boards from approach, and make a little runway on the grass at the end of a week or ten days. Watch the same as when let into runway of brooder till they learn the way back, or they may stay out and get chilled. When able to jump these boards take the boards away and give free range.

Farina, Ill.

Who makes the lamp chimneys?

Macbeth makes the good ones.

His name on every one.

If you'll send your address, I'll send you the Index to Lamps and their Chimneys, to tell you what number to get for your lamp.

MACBETH, Pittsburgh.

Odds and Ends.

EXPERIENCE.

At least half of the households in the country have an attic or some other place set aside for the odds and ends that accumulate from one year's end to another, and, what is still worse, they are sometimes allowed to keep on accumulating year after year without the annual clearing out. What is the use, sisters, to which you intend to put all this rubbish? Why not have a rummage sale, or, better yet, a rummage give away, and end up with a rummage bonfire to leave the place clear for the next year's contributions?

At least half of the things stowed away in attics are of no earthly use and should have been burned at the start, but where the habit of stowing away has been formed in youth, and strengthened with our growth, there is only one way to counteract it and that is by making an annual clearance. To begin with, sort out the articles of clothing that still have some good material and lay them aside to be used or given away. Next comes the worn out garments and rags which should be used for rugs, sold to the rag man or burned. If rugs are to be made, pick the woolen ones from the cotton, color some of each lot with Diamond dyes and then make them up at once so as to have them out of the way. Rugs made of cotton and woolen rags together are not usually satisfactory, but either kind is all right if used alone. Cut up and make over the garments that have been laid aside for that purpose. If not needed in the family, there are mothers in the neighborhood who will be glad to have them to make over for small children, or for quilts, if they are tactfully offered.

The old chairs and other pieces of furniture should have the same treatment. If not of use the proper place is the burn heap, but if they can be mended, then do it at once or give them to someone who needs them, and has more time for such work. Sometimes a good washing with Pearline suds, a little glue for loose joints, and perhaps a new coat of varnish will work wonders with a discarded piece of furniture.

When everything has been cleared out of the attic, give it a good cleaning with the broom, then wash the windows and floor with warm Pearline suds and see how fresh and clean it will be for the putting away of useful things, but not for rubbish.

Florida.

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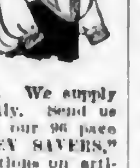

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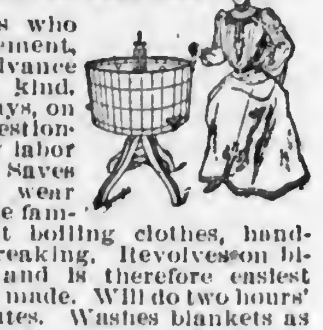

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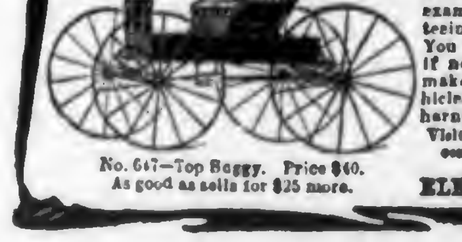

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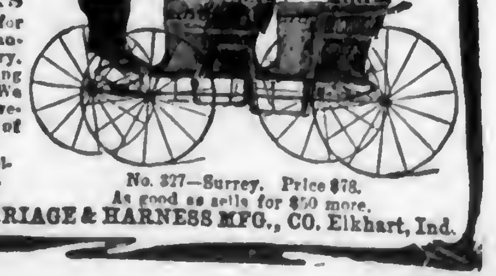

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Small Fruit at Cuttyhunk.

SYLVIA M. FARNUM.

We are fruit "enthusiacs" at Cuttyhunk Farm. Our small fruits are strawberries, grapes, raspberries, gooseberries, currants, oleasters, quinces, the wild service berry and the dwarf Juneberry. These are the kinds we cultivate in the garden. As for blackberries, the woods are full of them, larger and more luscious than any I ever saw in a city market. First and foremost comes the strawberry. We have always two beds, sometimes three. Nearly every year we set out a new bed, afterwards plowing up the oldest one, unless it is doing so well that we cannot bear to sacrifice it, and so let it stand for another year. We never set out a new bed where an old one has just been plowed out, but always on ground where some other crop has been raised for a year or two. If kept year after year on the same ground, strawberries are more liable to disease. Experience has proven that, for us, spring is the best time for setting out a new bed. Set out in the fall they are more apt to be thrown out of the ground by the successive freezings and thawings of our Tennessee winters. The first season we try to keep the fruit buds picked out and cut off all but three or four strong runners on each plant. These we allow to form matted rows, securing more berries, if not quite so large as when kept in hills. We use no fertilizer except wood ashes in abundance. We have delicious berries from about the first of May to the middle of June—three times a day on our own table, besides berries to sell and to give away. The mother and I do all the work, except plowing and cultivating. We set out the plants, hoe, weed, cut off runners and pick the berries. Our varieties are the Bismarck, Brandywine, Michigan and Corsican—all vigorous growers and bearing bounteous crops of magnificent berries.

Next come the raspberries, ripening before the last strawberries are gone. We have only red ones—the Loudon. The black caps have failed to do well for us, our soil not being rich enough. The old canes should be cut out of the raspberries each year after fruiting, and the young canes kept pinched back to about two feet high. In addition to cultivation and pruning the grapes require spraying to prevent rot—with copper sulphate before the buds swell in the spring, and once or twice with Bordeaux mixture after the vines have leaved out. I always sack some bunches of each variety. These are especially fine flavored and handsome. I use manila paper sacks, and cloth ones made from flour sacks. All this means work, of course, but pleasant, profitable, healthy work. The only fruit I have found which requires no care whatever is the oleaster. It is really as "hardy as an oak," thrives in sod, is free from any disease or insect pest, and is loaded with fruit every year. Oleasters make a fine, bright red jelly and are very good for pies and dumplings.

[We never so much as heard of the oleaster.—Ed.]

Fruit.

B. C. GRANT.

I think there is nothing equal to strawberries for profit, among small fruits. The first ones I ever grew for market gave such grand results, that I have increased the acreage each year, and expect in the future to continue as in the past. I set one-half acre the first year. I did not go to my neighbor's old, worn out patch to get my plants, but sent direct to the nurseryman. I purchased 4,000 plants at a cost of $12.75. I had 1,000 each of the following varieties: Haverland, Beder Wood, Lovet and Marshall. The soil was a clay loam, moderately rich. The ground was plowed as soon as dry enough in the spring, and well pulverized. I did not put on any manure or fertilizer. When my plants arrived I stirred the soil again and marked the ground 4x1½ feet. As the Haverland was not a self fertilizer I set each alternate row with Lovets. The Beder Woods and Marshalls were planted by themselves. As soon as the plants were all set I cultivated the ground with a drag toothed cultivator. When the buds began to appear I picked off the stem and allowed no plants to fruit that year; I also cut off all surplus runners, and keep the ground free from weeds and grass. When freezing weather came, in the fall, and soon as the ground was frozen solid enough to bear up the weight of a team and wagon, I mulched the bed with straw some three or four inches thick. This protected the plants during winter and also through the freezing and thawing in spring. As soon as the ground was free from frost I raked the straw off of each row and let it lay between the rows. This kept the berries clean and free from grit. After they had all been picked, I neatly mowed the vines, cutting them closely to the ground. When all was dry, the ground was completely burned over. This destroyed all diseased plants and burned up the weeds, if any, and left the ground clean for cultivation, as soon as the new leaves appeared. The profit from this half acre of berries is as follows:

Plowing	$ .75
Dragging	1.25
Cultivating during season	3.00
Hoeing	4.00
Two loads of straw	5.00
Spreading same on field	.50
2,000 boxes	5.00
25 crates	1.75
2 pounds tacks	.60
Freight	.62
Making boxes and crates	2.50
Picking berries	21.95
Cost of plants	12.75
Setting plants	2.00
	$61.67
Sold 2,195 qts. berries	$132.30
Berries used on table	8.35
Total	$140.65
	61.67
Profit	$ 78.98

I now raise my own plants for setting new beds each year. I send to the nurseryman for a few hundred plants of the variety I wish to grow; I take particular care of these plants during the summer and the next spring I take them all up, discard the poor ones and set out the best of the plants. This way is much cheaper than buying all the plants of the nurseryman. I have changed to some other varieties, such as Warfield, Parker Earle and Brandywine, but still retain my first choice. Last year my strawberries netted, above all expenses, $137.68 per acre. I now set my plants three and a half feet each way and cultivate each way with a horse until time to form the row, and then cultivate only one way thereafter. I sow oats in the fall for mulch, instead of putting on straw. This is the only change I have made since the first berries I grew several years ago.

Corunna, Mich.

Our Book Table.

KATIE E. LAMMERT.

While "Paula Clyde" and "Donovan" were standing "Beside the Bonny Brier Bush," that stood close to "The House of Seven Gables," talking of "Eric's Vacation" at "An African Farm," a "Devotee and a Darling" passed on her way to visit "A Star in Prison" who had nearly ruined his life spending "Ten Nights in a Barroom" at "Black Rock;" but now had come the "Turning Points" in his "Pathway of Life," that would lead him to the "Golden Dawn" and "Mother, Home and Heaven." "Friends and Neighbors" passed them. Some were going for "April Walks" to "West Lawn," and "Meadow Brook." "Dr. Latimer," who was "Master of His Fate," was taking a bouquet of "Roses of a Hundred Leaves" to "Miss Archer Archer," his "Great Love," who was "Mistress of "Beech Knoll," a "Wise Woman" and a "Lady of Quality." "Edith Lyle," in "Silk Attire," who lived "Next Door" to "The Jucklins," and was one of "The Ten Old Maids" of "East Lynn," rode by, accompanied by her "Cousin Maude." After awhile I got tired of "Watching Passersby" and decided to go and try some "Delicious Dainties" from out "Aunt Martha's Corner Cupboard."

[Pretty well done, Katie! Thanks.—Ed.]

* * * * * * * *

THE MASTER OF WARLOCK.—Much of the popularity of Ian McLaren's works was due to the fact that the general settings were the same. One felt at home the moment she opened one of his volumes and met the name Drumtochty or that of the dear old doctor. So, perhaps, much of the charm of George Cary Eggleston's stories lies in the fact that they all centre about Virginia and the Carolinas. It is like meeting an old friend or getting back home to open the pages of "The Master of Warlock" after having recently laid aside "Dorothy South." The latter deals with love and the early stages of the Civil War, the latter with love and the latter stages of the War. These, of course, follow the "Carolina Cavalier," which also deals with love and patriotism, and all from a Confederate's standpoint. It is evident the author believes in love, the real old-fashioned kind. His heroines are not of the sort that forsake husband and children and meet some other woman's husband clandestinely. No, they are the healthy, holy sort of women who would die for truth and honor, and to whom shot and shell are no intimidation when dear ones' safety is at stake. The kind of women that your mother and our mother is. His pictures of Virginia life in the old regime are restful and delightful, and we are loth to go on to the end where Marshall Pollard's prediction is verified, and Hallile Pegram, reminding him of it, says: "The old life of Virginia is completely gone, the old conditions have been utterly swept away. * * * * We Virginians had for generations lived in the past. * * * We had not kept step with progress. * * * We are free now to create a new life in tune with that of the modern world." "The Master of Warlock" is dedicated to "Dorothy South, the dear little woman who has been wife to me for thirty-four years." The story is wholesome, elevating in tone, interesting, sometimes comical, sometimes pathetic, historical and altogether good. Better for our youth if more such clean stories were laid upon their reading tables; better for them and better for future generations. The three volumes mentioned above would make a charming gift to man, woman, youth or maiden, or anyone of them is to be recommended. During the time we were reading "The Master of Warlock" aloud, we were reading to ourself "The Workers—West," and could but note the difference. One, despite the onslaught of war, was sweet, tender, homelike and reverent in tone; the other, dealing as it does with the bare, bitter question of bread and butter among the workers in Chicago—workers when work is to be had, seems so tiresome, so glaringly real. but we will talk of this book and its companion—"The Workers—East"—again.

The point we would here make is, it does one a world of good sometimes, giving both mental rest and moral stimulus to read such a book as "The Master of Warlock," even though the next hour we are grinding away amid the workers. V. C. M.

You have noticed the disagreeable odor of clothes just from the wash. That's the soap. Cheap soaps do not rinse out. Their objectionable ingredients adhere to the fabric. Ivory Soap rinses readily, and because of its purity leaves the clothes sweet and absolutely odorless.

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Topic No. 574, May 30. — *How Did You Commence Farming? What Difficulties Did You Have? How Did You Overcome Them and What Success Have You Had in Improving Your Land and Yourself?*

Topic No. 575, June 6. — *Has the Manure Spreader Paid You on Your Farm for Its Cost Over the Old Method of Hand Spreading? Can You Use it Profitably on Hilly Land?*

Topic No. 576, June 13. *Where a Farm Can Only Afford to Have One Wagon Should it be a Low Down One or Not?*

Topic No. 577, June 20. *Have You Ever Grown Irish Potatoes Under Straw? If so Tell us How You Succeeded and How You Planted Them and When?*

Topic No. 578, June 27. — *Experience in Cheese Making on the Farm. How do You Make and Cure and Keep it, and What Kind of Rennet do You Use?*

Topic No. 579, July 4. *On What Crop Does the Farmyard Manure Pay You Best, and How do You Manage it?*

Topic No. 572.—Cherries for Market. Have You Found Them Profitable, and What are the Most Profitable Sorts?

William C. Aiken, Angwin, Cal. — The cherry is a very successful and paying fruit to raise in this section, and the business is on a large commercial basis. With a climate not given to violent extremes of any sort, having sufficient annual rainfall, our central part of the State, and more particularly this and adjoining counties, seem well adapted to its cultivation. It is generally to be counted on for a sure crop, though some seasons it is injured by untimely spring frosts. The early varieties of cherries ripening here a month or more in advance of the Northern and Eastern seasons, give a monopoly of the markets, where they are shipped by the carload, often at large profits. Our trees are planted on good soil, 24 to 32 feet apart, and carefully tended and protected. This distance gives sufficient room for driving between, fruit picking, etc. There are few pests here to guard against, sun scald and borers being the only serious ones, but easily controlled by planting the young trees on the north side of large sized stakes, and wrapping the trunks close to the ground and a foot or more high with sacking. The favorite variety for early ripening is the Black Tartarian. We have also found the Early Richmond a very profitable variety to plant. Other favorites are the Royal Ann and those of the Bigarrean type, a little later in ripening. We keep our orchards thoroughly cultivated, and seldom attempt to raise crops among the trees. Have found low training in vase form to shade the trunks, and for convenience in picking fruit, to give the best shaped trees and be best suited to our climate. In January or February, before the buds begin to swell, we cut back two-thirds of the previous season's growth, and otherwise prune to keep the trees in shape. Picking time is a busy one throughout the cherry sections; some of the schools have vacation to permit the children to help in the orchards and packing houses. We pack in five pound boxes, measuring about 4x8x14 inches; the first layer is carefully faced, with all stems out of sight, to form the top when the box is filled. Prices in mid-season are seldom less than six to ten cents a pound, the first fruit often bringing fifty cents per pound. Large orchards are quite common, and profits per acre run into the hundreds of dollars.

A. J. Umholtz, Tum, Ark.—Cherries with us have always been ready sale at 25 to 35 cents per gallon, and in strawberry crates of 24 boxes, $1.75 to $2 net. The most profitable with us has been the May cherry, a seedling, or at least we get the trees from sprouts, and it is bad to sprout. The May cherry is a good sized, round, red cherry, quite juicy and sour, or acid. Its fine looks makes it a good seller. The next best is what is called here the June cherry. I think it is the same as the Morello. The cherries are rather small, of a dark red or nearly black color when fully ripe. I have tried a few trees of other kinds, but so far have not been a success. May do better when trees are older. The last frost in the spring often kills from one-half to three-quarters of the cherry blooms. If we could get a kind that would bloom as late as apples, and that would yield and do as well in our mountain climate, they would surely be very profitable. Insects do not bother them like other fruit trees, nor has any fungus injured them any as far as I have noticed. This year two-thirds of our May cherries are killed, and June cherries and some others hurt but little. It is generally the reverse. But this season the May cherries bloomed first; other years they were from two to four days later than the June cherries.

L. A. Gibbs, R. F. D. 13, Fredonia, N. Y.—I think cherries are the most profitable crop we grow, and it is becoming one of our chief industries. The Early Richmond pays the best, Dyehouse and Montmorency second. They are large cherries, of good color, and free from worms. The canning factories here take all of them at 6 cents per pound, or about 10 cents per quart. A tree six years old will yield about $4 worth of cherries. We pay one-half cent per pound for picking. We set trees 16 feet apart each way, about 160 to the acre. The demand for sweet cherries is limited and confined chiefly to the home trade, as most sorts decay too quickly for safe shipments. I think Black Tartarian heads the list, with Napoleon and Gov. Wood. We have some Windsor; the trees have attained an enormous size but have not fruited much. May Duke is good. English Morello are no good with us as they are wormy in spite of spraying.

Irvin G. Miles, Berwinsdale, Pa.—We have thirty cherry trees on our farm, and sell a good many cherries, getting from 5 to 8 cents a quart for them. We have black and red sweet cherries and red sour cherries. We find the red sour cherries the most profitable on account of the trees being young and healthy, and bearing large fruit. The trees should be carefully watched and the black knot cut off, for when they get a start they will soon ruin the trees. We keep setting out young trees and when the trees get old we cut them down, as they will not bear good fruit when they get very old. The trees should not be set in fence rows, but should be out where they can be farmed around and they will do much better.

Chas. C. Cottrell, Springdale, Ark.—My experience with cherries as a market crop is limited. People have just commenced to set commercial orchards within the last few years, and only in 100 to 1,000 tree tracts. The old way of planting the cherry trees was in the yards or fence corners and let them shift for themselves. There are trees standing today set that way that are said to be 50 years old, and they bear full every year. The local market takes all the cherries raised yet that are for sale, at 25 to 40 cents per gallon. The old trees are practically all seedlings, but budded stock is now set altogether. The following varieties are now largely set, in order named: English Morello, ripens in August; Early Richmond, middle of June; Dyehouse, first of June; Montmorency, last of June. Of course other varieties are set to some extent, but those named are the leading ones. They are set and cultivated as follows: 16 by 20 feet apart, and four rows of strawberry plants are set (when the trees are set) in the 20-foot spaces. The ground under the trees is kept free from all weeds and grass. All the leaves and waste from the strawberries is cultivated in, and wood ashes and lime are scattered thinly over the ground and cultivated in. They are treated thus until the third crop of berries are gathered. As soon as the berries are gathered the ground is turned and planted to cow peas, which are turned or cut for feed and the manure put back on the ground. The pruners are used freely to keep the trees in proper shape. The trees commence to bear the fourth year, and under this mode of cultivation they make a rapid growth. But as a market crop they are still in the experimental stage here; that is, for distant markets.

John Morris, Golden, Colorado.—From 15 years' experience in the fruit business in this part of Colorado, I must say that cherries for market are profitable if we plant such varieties as are hardy in this climate. We have to grow the sour cherries here altogether, for market. Now as to varieties that are profitable here. The first to ripen is Montmorency, then English Morello and Ostheimer. I am in the cherry business for the money I get out of cherries as well as the pleasure that I get out of working among the trees and watching them grow and develop their fruit. I have over 800 trees planted out now, and they are about one-third Montmorency and two thirds English Morello. If I was going to put out any more, say 5, 10 or 20 acres, I would plant them about half Montmorency and half English Morello. These two varieties are the moneymakers for this market. Early Richmond, Louis Phillip and May Duke are too tender in bud for us here to be sure of a crop every year. In the fifteen years that I have been in the fruit business I have only seen one year that the Montmorency and the English Morello have failed to make a paying crop. We put all our cherries on the Denver market. The Morellos sell better than any other cherry on the Denver market. They all want a dark cherry. The Montmorency, I think, is a better cherry to can than the Morello is, but I notice when the buyers come to our wagon they always pick out the crates with the dark cherries in them. The Montmorency is a light red cherry and tree will not bear as young as the Morello does, but from experience I have had the Montmorency is a longer lived tree than the English Morello. I have them planted 16 feet in the rows and 18 feet between the rows. I find that some of them are planted closer together, but I like 16 by 18 better. I don't say my way is the best way. The crop last year averaged $2.28 per crate of 24 quart boxes.

Thomas Patton, Mosgrove, Pa.—Cherries generally sell here for 5 to 6 cents per quart or by the gallon for 18 to 20 cents. If a tree produces two or three bushels it is considered a fair crop; often one-half this amount is gathered. The cherry tree takes up as much space as the apple tree does of the same size. Some kinds throw out shoots from the roots and soon make a disagreeable sight for the tidy eye. I would rather gather twelve bushels of apples than one of cherries. If the apples are good keepers and of good quality they are sure to bring $1 per bushel. Now I have some cherry trees as large, if not larger than apple trees that I picked 12 bushels of apples from this year, that sold for $1 per bushel, and I could have sold fifty times as many if I had had them, at the same price. So you see the difference in profit per tree. It is the article that gives the largest profit that should attract the producer's attention. We, at least, have not found the cherry profitable. If we were going to plant trees they would be of the May Duke variety. They bring better prices, are more speedy to gather, yield more per tree and do not require so much sweetening to make them palatable.

Jos. E. Fischler, Spicewood, Pa.—Yes, we have found them profitable in several ways. Have all of the luscious fruit we want to eat and for home use, and have sold from one to fifteen bushels per year for the past 15 years. Have picked two and a half bushels from one tree and sold them for 12½ cents per quart. I have the Early Richmond, Windsor, Montmorency, Gov. Wood, Oxheart, English Morello and common red cherries. The Early Richmond, Montmorency and Gov. Wood have proved the most profitable for this country. Have no trouble selling the three last named sorts at 12½c. per quart.

F. F. Frantz, Wehr, Pa.—Cherries are an excellent fruit for market, provided we grow and keep the right sort. I have two good and very profitable sorts, the Yellow Spanish and Windsor. The Yellow Spanish is a large, early yellow with bright red cheek, heart shaped, firm, juicy, rich and high flavored. Trees are growing to a large size. I have one tree from which I sold cherries to the amount of $12.60 last summer, besides having used a large quantity in the family and for visitors who frequently come during the cherry season. The Windsor is a very large, liver-colored, finest quality and very vigorous and productive. It comes a little later than the Yellow Spanish. We pick our cherries for market with the stems on. They will keep longer and better. We tried this method for a number of years with satisfactory results. We usually pick them in quart boxes and put them in crates, and they are just as fresh and solid when we get them to market as they were when taken off the trees on the day before. I always find cherries a profitable article for market, because they are not so plentiful and few people seem to understand how to handle them. Cherries picked with the stems off are generally jelly or rotten before we get them to market. I wrote a similar article for preparing cherries for market some eight or ten years ago and it was published in the Short Cuts Department of the P. F. Those old subscribers who have back numbers can refer to it.

C. C. Beals, New London, Ind.—Cherries are, as a rule, profitable to grow for market, and require very little care after they come into bearing, except spraying. Of course there are orchards that do not yield a very large income to their owners, but it is that way in all kinds of fruit growing. The trees should be of good bearing varieties and planted on soil that is suited to their growth. I have in mind an orchard that is planted in a block on the east side of a large wood; it does not bear very large crops. I do not know whether it is the wood, the shape of the orchard or some other cause or causes that prevents it from bearing. For an all around cherry the Early Richmond is hard to beat. The Montmorency and Dyehouse are two good varieties.

J. F. Cass, Skagit, Wash.—The cherry on this coast is the highest priced of the different fruits, usually approximating to 10 cents per pound, and the only fruit that is, in general, certainly profitable, grown either in California or with us here. The dark colored, large, late, solid fleshed, sweet kinds are the best for market purposes. And I know of nothing better than the Black Republican variety, it being the only kind that I have planted for market. The fruit of the light colored sorts soon show decay spots when shipped. The only place that the sweet cherry will thrive in is a very deep sandy, or loose loam soil, as any stagnant water within several feet of surface is death to tree, the high river banks being the best and surest location. When conditions are right it is more certainly productive than other of the tree fruits, and is not generally subject to either insect or fungus attacks. Some trees in this State have been reported to have produced $150 worth of fruit a tree in a single season, and $25 from a tree is quite a common occurrence.

Mrs. R. M. Smith, Greene, N. Y.—Cherries are a profitable crop here in Central New York, and will always sell readily, and if of the early sorts so much the better. We have an orchard of Yellow Spanish, Early Richmond and Gov. Wood, but the Early Richmond is the best and the best seller. A neighbor of ours has one tree of Richmond that he sold $15 worth from last year, and in the last five years has never failed to produce a crop, but the greater part of ours only bear every other year, but we hope to overcome that difficulty this year by spraying, for they blossom full every year. After setting, the trees are banked around with coal ashes to keep down the grass, and require no more cultivation, if the ground is enriched enough in the start.

D. D. Tryon, Pulaski, N. Y.—I have found cherries profitable for market if properly grown and cared for. Some years the crop is badly damaged by the plum curculio, and jarring appears to be the only remedy; that is impracticable with large trees. Another trouble is the black knot, which is easily controlled, if taken care of in time; have not been bothered much with it in my orchard of over 600 trees. In our home market cherries sell best in 36-quart crates (crates holding 36 1-quart baskets). For shipping we use 4 and 8-pound baskets. Montmorency sells best and is the most profitable variety with us, and is more largely planted for market in this State than any other variety. Another profitable variety, Early Richmond, is 10 days earlier than Montmorency, but is not so good in quality and has a bitterish taste unless fully ripe. English Morello is another good variety; ripens later than the preceding but so intensely sour is not liked by many. I consider these three varieties the best of the sour ones for home use or market. Windsor we consider the most profitable of the black, sweet varieties, and Napoleon of the white or lighter colored ones. The earlier sweet cherries are no good; all taken by the birds. Bing and Dikeman sweet cherries are well spoken of, but have not tested them. The sour cherries are most profitable and more sure of a crop, the sweet varieties often decaying in unfavorable years.

SUMMARY.

The contributions seem to show that so far as orchard culture of cherries is concerned it is largely confined to the sour cherries in the eastern part of the country. But we can see no reason why, in sections where climatic reasons do not forbid, the finer Heart and Biggareau cherries should not be grown with even greater profit than the Morello varieties. One of the greatest hindrances in the eastern part of the country in fruit culture of all sorts is the slowness with which the growers learn the value of the neat and handy packages which the California growers use. If the same amount of care was used in packing in the East, our fruit, even such as cherries, could go abroad safely, for it should be as practicable to send peaches and cherries across the Atlantic from the eastern coast as to send them across the continent from California and then distribute them to retailers all over the East and South. We find the neatly packed boxes of California cherries at the fruit stores many hundreds of miles from the distributing point in New York, and the way they keep in the boxes in neatly packed layers is a marvel to us who imagine that a cherry will survive but a day or two after gathering. The finer sweet cherries are all useless in the coast plain south of the Chesapeake, but over a large part of this region the sour cherries will succeed finely and should be profitable. In fact, we know that they are when properly handled, for we have known cherries from North Carolina to sell right along with the California fruit at 40 cents per pound, when packed in the same way. In the upper Piedmont and mountain country from Maryland to Georgia the finer cherries can be made a very profitable orchard crop, and the wonder is that so few are grown. The cherry has its season to itself, for even the early peaches do not interfere with it, and everyone wants fresh fruit when cherries come in. Southward, in the section where the Heart and Biggareau cherries will thrive, the trees should always be grown on the Mahaleb stock and headed within a foot of the ground to prevent the sun scald. Then the pruning should be carefully attended to to keep the trees within reasonable limits and make the gathering of the crop easier. The sour cherries, of which the Early Richmond and the Montmorency are the best, naturally make dwarf and spreading trees, but all should be headed low, and the cherries on the sour cherry trees will be as easily gathered as on a well trained peach tree. They need, too, no more room than a peach, while the finer cherries should have a space 25x30 feet for the best results. Or they may be planted 40 feet apart and the sour cherries placed between them. Where the currant thrives, the cherry orchard will be a good place for the bushes, as they do not object to a little shade. Besides other sour cherries the Guigne or Early Purple and the May Duke are good. But they are seldom profitable, as the birds are so fond of them. Mr. Beals mentions an orchard on the east side of a woods that seldom bears much. This is due to the fact that it is in a sunny and sheltered place, which brings the blossoms out too early and they get hurt, probably. Cherries, like all early blooming trees, should not be in sheltered and sunny slopes, but fully exposed to the cold winds on the hills or the northern slopes to keep them back in spring. Of the finer sweet cherries we prefer the Yellow Spanish, Elton, Gov. Wood and Napoleon. Of the Black Hearts the Luelling and the Black Tartarian are as good as any. In the northern part of the country they should be budded on the Black Mazzard stock.

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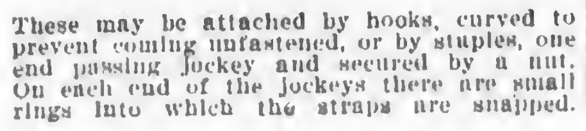
Farm Implement Annex

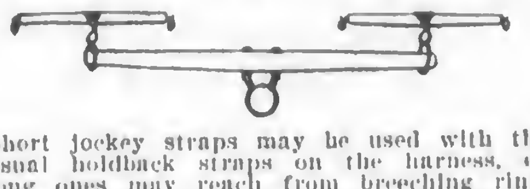
To The Practical Farmer.

It is the purpose of this department to assist P. F. readers in securing the best implements and machinery for doing their work, and to so adjust, manage and care for same as to get the best possible returns from their use. We invite subscribers to write us fully and freely in regard to farm implements and machinery. Pointers on selecting implements for various kinds of work and soil; on buying, operating and caring for them; their defects, improvements, attachments, adjustments, etc., will be welcome. A cash prize of 50 cents will be paid for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Put at top of each article For "Farm Implement Annex," and send to Geo. T. Pettit, Box 32, Oneida, Kan.

Jockey Neckyoke.—The accompanying illustration shows a "jockey neckyoke" used by many teamsters. It really is an ordinary neckyoke with the addition of the "Jockeys."



These may be attached by hooks, curved to prevent coming unfastened, or by staples, one end passing jockey and secured by a nut. On each end of the jockeys there are small rings into which the straps are snapped.

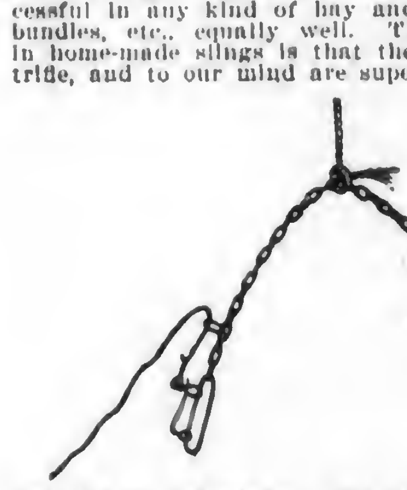


Short jockey straps may be used with the usual holdback straps on the harness, or long ones may reach from breeching ring. This neckyoke is much better than the long one without jockeys shown in the Annex recently. A. R. EVANS.
Spring Mills, N. Y.

3-Wheel Lister.—I have a few words of praise for a riding lister made by the Rock Island Plow Co. The one I have is called the 3-wheeled lister, and is so constructed that the operator can see the corn as it passes from the seed box into the ground. The third wheel, which follows the subsoiler and the coverers, is an open wheel which presses the soil in on the corn, leaving a little loose ridge over the corn, which prevents the soil from running together so badly in case of a hard rain, and is a very important point. This implement is so constructed that a boy who can handle a team can manage it. It is provided with a strong spring, which helps raise the lister out of the ground. Altogether it is a very fine implement and a fair sample of what is being done by our progressive manufacturers. T. E. WHITLOW.
Moran, Kan.

[The 3-wheel lister of different make was introduced here last year. It certainly is a fine tool; runs steady and light and does superior work.—ED.]

Hay Slings.—We made a great mistake in trying to shift so long without hay slings. Used a harpoon fork up to last summer. We found the harpoon was not successful in short or light hay, while the slings are successful in any kind of hay and will handle bundles, etc., equally well. The advantage in home-made slings is that they cost but a trifle, and to our mind are superior to many that are on the market. We have a track in our barn, but they can be used without track if so desired. First have a chain made 4 feet long with a hook on one end and a trip on the other; fasten centre of chain on pulley or rope same as harpoon. Buy 216 feet of ¾-inch rope and cut it in 18-foot lengths, which will make you four slings of three ropes each. It is not advisable to use less than four slings. Tie one end of sling, or three ropes, all in one ring, while at the other end you will fasten a link on each rope. With the slings divide the load in quarters when loading. When you go to unload fasten the three links on trip end of chain and hook ring on other end. When tripped, the ropes are easily drawn out after mow is full. Trip is made by a link passing over a hook at right angles. Fasten trip rope to this link and pass through ring in chain above as shown in cut. SUBSCRIBER.
East Lynne, Mo.



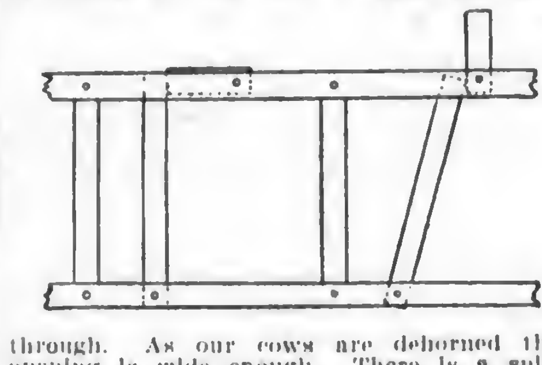
Hand Hoes. — No doubt you will smile when you learn that my subject is hand hoes. But while not generally liked by farmers, the hand hoe is a handy little tool. There are many different kinds of hand hoes: sharp and dull, quick and slow, heavy and light, and many others. But the kind of hoe that I like to use is light, yet strong, sharp, quick and effective. No use in having a large, heavy hoe, because one of this kind is not as useful as a lighter one. A good hand hoe is useful in many ways about the garden and yard. There are many little plants that can be benefited by a few strokes of the hoe; for instance, in breaking the crust so the warm sun can penetrate and the showers give the young plant drink. The proper use of the hoe will destroy many weeds also. Then there is occasionally a time when we cannot use other and quicker methods, when by the use of the hand hoe we can accomplish much, though not so rapidly. While I am glad to know that we have such a good list of complicated machinery for farming and that they do their work with almost human exactness, still there are places where they cannot be used. Then it is that much good can be done with the hand hoe. H. RAY MERCER.
Upton, W. Va.

Riveting Machine.—Farmers and others will find this a cheap and convenient article. With it and a box of tubular steel rivets many dollars can be saved in harness repairs. Ours cost but 30 cents at one of the large mail order houses, and has paid for itself many times over.

Wheel Hoe. — We invested $2.50 in an "Avery" garden plow last season and found it invaluable in saving time and labor. It is light and easy to operate and one can do more with it in an hour than in half a day with an ordinary hoe. For stirring the soil we used the rake attachment; for deeper cultivation the shovel, and the little plow for making rows. BERTHA H. CORN.
Cameron, Mo.

How We Fixed the Cultivator. — When getting ready to plant corn last spring we thought to try converting our Planet Jr. cultivator into a covering machine. This was successfully accomplished by putting a piece of 2x4 oak about 3 feet long across the frame of cultivator near the front end, notching it down on frame about 1½ inches and securing with clip around centre-piece of frame, said clip having been taken from an old spring wagon axle. Next, two old harrow teeth, taken from an old spring-tooth harrow, were fastened one at each end of the said 2x4, to front side of same, with two more clips taken from the old wagon, taking two that were made square to fit the axle. By a little filing clips were made to slip over the teeth and fasten them to the wood, points of teeth turned back. Cultivator teeth are all removed and hoes attached to throw to centre. With two horses to this rig corn can be covered nicely if soil is in good condition, but would not do in lumpy or stony ground. Potatoes also can be covered without having them mashed by the wheel or displaced by the horses' feet.
New Lebanon, Pa. G. D. PEDEN.

Our New Stanchions.—We have lately placed some very simple and cheap stanchions in our cow stable and are very well pleased with them. First a flat trough 2 feet wide is made, which rests on the floor. The back may be of any convenient height or the side of the barn, while a 2x4 set on edge runs the entire length and forms the front side of the manger. Then another 2x4 is placed outside and the uprights, which are also 2x4, are fastened between the two with 5½ or 6-inch bolts of any size desired. The uprights which form the stanchions are placed 7 inches apart, the left-hand one being stationary, for we generally work from the right-hand side of a cow. The right-hand upright drops back 8 inches, making an opening of 15 inches for the cow to pass her head through. As our cows are dehorned this opening is wide enough. There is a spike driven through the 2x4s which holds the upright at the top. The movable upright is made small enough to slide easily between the lateral 2x4s. The locking block is of one-inch stuff and works on a bolt. The pieces used to fill in spaces between cows are old scrap lumber that may be found around the place. By using care in putting in locking block, the stopping spike will prevent it going down too far when closed, and will catch the lower inside corner when open, thus holding the block in an upright position. We allow each cow a space of 3 feet 4 inches, which we find about right. The stanchion is 5 feet high and the top leans 6 or 8 inches towards the cows, which draws them forward as they lie down. The material required is four pieces 2x4 as long as the stable; the trough, also as long as the stable, being made of inch boards; then two pieces of 2x4 five feet long, four pieces 5½ or 6 inches long, also bolts with washers, will be required for each cow to be stabled. The cows are coaxed into their stanchions with a little ground feed. Some of them did not lie down the first night, but plenty of bedding made them contented. The advantages are low cost, economy of feed, ease of handling cows and reasonable cleanliness. I think the stanchions should incline 8 inches toward the cows. EVANS JONES.
Sedgwick, Kan.



A Good Lantern.—When a person really needs a lantern he needs a good one, and needs it badly, too. A few weeks ago we had trouble with our old lantern and solemnly vowed to get a new one. We went to our dealer, but he had none to suit us, so he ordered a "Dietz" dashboard lantern for us and charged us an amazing price for it. But we bought it with the understanding that if it wasn't worth the money paid, we were to take it back and he would refund the money. We have given it all kinds of tests and can truthfully say that it is far beyond our former anticipations of the possibilities of a lantern. Our advice is, if you seek satisfaction, when you buy a lantern buy the "Dietz." W. W. JONES.
Oneida, Kan.

[We note with pleasure that our young friend Jones has also invested in some neatly printed stationery, setting forth the fact that he is a breeder of Duroc Jerseys.—ED.]

Society of Christian Endeavor, Denver, 1903.

The Passenger Department of the Chicago & North-Western Railway has issued a very interesting folder on the subject of the Christian Endeavor meeting to be held at Denver, July 9th to 13th, together with information as to reduced rates and sleeping car service, as well as a short description of the various points of interest in Colorado usually visited by tourists. Send 2-cent stamp to W. B. Kniskern, Passenger Traffic Manager, Chicago, for copy.

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Gentlemen. I had a heifer that would not breed; she was four years old. I sent for your Injection Powder and did as you advised me, and I was much pleased with the result, for in ten months from the time I got the Injection Powder she was fresh. She is a fine cow and it was the best $2 I ever spent.
Very truly yours,
M. V. Mapes, Clearfield, Pa.

A Good Lamp. — The Angle Lamp we know will be of interest to our readers. There is no more important point than that of good light and many of our readers who are struggling along with inferior systems will find in the Angle Lamp a permanent relief from their difficulties. We are told on the best authority that this lamp is vastly superior to other methods and it should prove a valuable addition to the homes of many of our subscribers. The Angle Lamp Co., 76 Park Place, New York City, is an old established firm, and may be relied upon to carry out its promises. Mention the P. F.

Good Combination Tool. — A happy combination of two necessary factors in the corn crop is found in the Eclipse Corn Planter and Fertilizer Distributor manufactured by the Belcher & Taylor Agricultural Tool Co., Box 30, Chicopee Falls, Mass. In it we have a hill or drill planter of marvelous accuracy, adapted to planting most all cultivated crops as well as corn, and at the same time a distribution of fertilizer with the seed in any quantity desired. Its perfect action and easy handling distinguish it no less than its wide duty. It is justly one of the most popular tools known to corn planters and truckers. Seeing it at work in the field would be a revelation to many of our readers. There's no reason why you should not have a fertilizer distributor when you buy a planter. There's every reason why you should. Write for descriptive circular and mention P. F.

Spraying Imperative. — Poor sprayers are dear at any price, while those that are well made will last for years and render maximum efficiency. We are glad to call attention to the Eclipse Sprayer advertised for some time in these columns and made by Morrill & Morley at Benton Harbor, Mich. This pump was invented and is made by people who are extensive orchardists. It is the outcome of their own search for something "a little better." It is of the barrel type. The cylinder is submerged; the valves are of brass and have no leather or rubber parts. The Eclipse valves are self grinding and self cleaning and are always in working order. The air chamber is of best seamless cold-drawn brass or steel. Even in so slight a detail as the handle malleable iron is used instead of cheap cast iron as in many. In the matter of agitation many sprayers are deficient, but in this respect the Eclipse is especially strong. The agitator is all metal and so shaped as to keep the solution in proper condition all the time. This sprayer is as effective for potatoes, melons, etc., as for large fruit. We advise any reader who is about to buy a new sprayer to write for a complete catalogue, which will state the case in fullest detail. Address Morrill & Morley, Benton Harbor, Mich., and be sure to mention the P. F. in writing them.

A Perfect Woven Fence No short wire ends to injury of stock. Heights 18 — 24 and up to 54 inches. Free catalog. CUYAHOGA WIRE AND FENCE CO., Cuyahoga Falls, Ohio.

KOKOMO Steel Farm Fences. New diamond mesh, woven wire. Heavily galvanized. Guaranteed. Catalogue free. KOKOMO STEEL & WIRE CO., 21 North St., Kokomo, Ind.

EVERY DAY
FROST, BEST, CHEAPEST
Some one tells us they have bought their last light weight wire fence. Why? Because it will not do the work, and will not last. Frost is made of large size hard spring wire and large size stays. Try it.
The Frost Wire Fence Co., Cleveland, O.

PAGE
Page Gate Frames
are solid round iron, welded by electricity. Gates have to stand more banging than fence. Ours are powerfully braced. Mesh entirely woven by hand.
PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.
OR GEORGE W. DORAN, EASTERN AGENT, ARDMORE, PA.

BARB WIRE and WIRE NAILS
at special low prices for 30 days. We ship from New Haven, Ct., or Pittsburg, Pa. "Eagle" Barb Wire will measure 148 rods to 100 pounds or 220 pounds to one mile. Farmers and Contractors can save money on all kinds and sizes of wire and nails. Write your wants to get close-to-cost delivered prices.
CASE BROS., Colchester, Conn.

Stays No. 9 Wire
THE STAY THAT STAYS
Where it is Intended to stay.
Testimonials by T. B. Terry,
Hudson, Ohio, and others.
Eureka Diagonal Stay Fence Co.
LEBANON, INDIANA.
No. 9 Line Wires
Fence Shipped in the roll if preferred. Prices reasonable, quality considered.

BROWN
16 to 35 Cents Per Rod.
Heaviest, strongest, most durable fence made. All wires are large. We sell to Farmers at Wholesale Prices. Coiled Spring, Barb and Salt Galvanized Wire. Write for catalogue.
The Brown Fence & Wire Co.
33 Rose St., Cleveland, O.

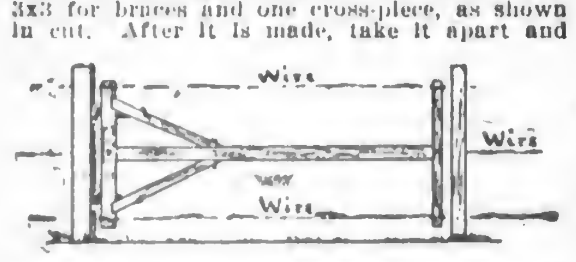
Winds May Not Blow
when you need water most. If the mill fails you can hitch on to the pump and be sure of your supply, and at the same time have a power easily transported and adapted to a score of farm duties with
—THE—
FAIRBANKS
Gas and Gasoline Engine.
This is the ever ready, reliable power, which you can operate as well as an engineer. That is the only kind worth while for the farmer. Absolutely safe, quick in action, always dependable. 1 to 10 h. p. in Verticals, 3 h. p. up in Horizontals. Do you know that only about a nickle an hour is required to run our small engines full speed at any farm duty you put them to? And then you are your own engineer. It will pay you to know more about them. We send the little power book which explains, for the asking. *Don't let price frighten you; they are not expensive.*
THE FAIRBANKS COMPANY, NEW YORK, N. Y.
Baltimore, Md., New Orleans, La., Buffalo, N. Y., Albany, N. Y., Philadelphia, Pa., Pittsburg, Pa., Boston, Mass

SHORT CUTS.

BY PRACTICAL FARMER SUBS.

All other trades have resorted to "Short Cuts." To be successful farmers must resort to them, too. In this column we will publish all actual labor saving short cuts made by the farmer on the farm and the housewife in the home. Write and tell us of any labor saving tool you have made, of any method of management or manner of using implements to save time, labor and money, or increase their efficiency. Even the smallest things may be useful and valuable. Hints and helps in the household are always welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Write on postal cards and make articles short. All errors will be corrected by the editor. Address all communications under this head to T. Greiner, La Salle, N. Y.

A Good Gate.—The cut herewith gives a view of a good and strong gate for wire fence. Take a piece 3x5; dress it. Make it any desired length from 12 to 16 feet. Take 3x3 for braces and one cross-piece, as shown in cut. After it is made, take it apart and give it a good coat of paint. Then put it together and hang it, then give it another coat of paint, and if a good job is done you have a gate that will last a long time, and one that you can go through with binder or rake, and not hard to open or shut, and will not sag. O. W. PETERSON.
Box 146, Chesterton, Ind.



Remedy for Colds, etc. — One of the surest and quickest acting remedies for cold in a child, and so simple that everyone should know of it is the following. Take a piece of flannel, cut bib shape, then spread well with lard or vaseline and grate one whole nutmeg evenly over the greased surface. Warm slightly and apply, pinning the bib close about the neck. Applied in time it will prevent croup or pneumonia, and will relieve a cold in less then twelve hours.
Knoxville, Tenn. M. H. BURNS.

To Avoid Shrinking of Wrappers.—I used to be troubled by my calico wrappers getting very short with first washing, until I tried this plan: I cut them an inch and a half or two inches longer than my measure, and after fitting and sewing up before the bottom is trimmed off or faced I wet the skirt portion of the wrapper up as far as the waist. If it is only left in the water long enough to get wet through and is ironed on the wrong side when about half dry it will be stiff and fresh. I also shrink the sleeves before making up. I do not wet the waist as the most of the shrinkage will be in skirt length. I like this way better than shrinking the whole piece before cutting or making an unsightly tuck to be let out after washing.
R 4, Utica, O E. MCFARLAND.

Bleaching Unbleached Sheeting. — We soak our pillow slips, sheets, etc., over night, or longer, in plenty of cold water, then scald after the white clothes have been boiled on wash day, and hang out without rinsing in blue water. We do not iron them until they have been washed at least three times. This is the main point, as ironing makes them much harder to whiten. We like to bleach when apple trees are in blossom, but that may be just a notion. R. E. KAY.
Northfield, O.

Clothes Line Support.—A good clothes line support is made by taking two strips of lumber 1 inch thick and 2 inches wide and about 9 feet long, fastened together at the top with a wooden hook between them, by a bolt which passes through both strips and the hook. To use it put one strip over the line and rest the line in the hook, with the lower ends spread wide apart so that the line will be low enough to hang the clothes easily. When the clothes are on the line draw the lower ends together till it is raised as high as desired. Can be folded together when not in use. MRS. E. S. WEBSTER.
Hutchinson, Kan.

A No. 1 Hitching Strap.—For a horse that tries to tear loose by pulling back, take a strong neck hitching strap, around the arm close to the body of the horse and snap the end in a ring that is sewed to the strap; then take a short strap with a snap, 10 or 12 inches long and three-quarters of an inch wide, and sew it on the strap that goes around the leg, at the hind part of the arm, and snap it to the harness, to keep the large strap from slipping down. Now take the other end of the long strap and go under the collar and from there through the ring of the bridle bit; then it is ready to tie the horse. I had a horse that used to tear loose every now and then, but since I use such a strap he never tore loose. He tried it once and that was enough. I would not do without it for five dollars. J. L. BEILER.
R 2, New Holland, Pa.

Have Plenty of Gates. — I have five gates to my back yard; one to go into the front yard without going through the house; one to go into the garden; one into the orchard; one into the horse lot and one into the lot where I keep my wood.
Middle Fork, Tenn. J. W. SPARKMAN.

Care of Lamp Burners. — These are often condemned and thrown aside for not elevating the wick. This is caused by the wick being too heavy for the tube. If it turns hard pull out a few threads from each edge of the wick. Perhaps you have torn the ratchet wheels loose on the spindle. Bend up the little clips that hold the top and bottom of burner together. Take off the bottom. If the ratchet wheels are loose, clean from oil and solder. Examine wick tube and straighten all bends that prevent wick from freely moving. Replace the parts and bend clips down securely. Scour the burner so it may reflect all the light possible. It pays to keep clean wicks in lamps.
Davison, Mich. E. HOLLENBECK.

To Remove Ink Stains. — If ink is spilled on the carpet, pour over it immediately enough milk to dilute the ink. Wipe up the milk. Wash with soap and water to remove milk, and the ink will disappear.

To Remove Soot.—Sprinkle with finely powdered salt and sweep lightly at first. Repeat till soot disappears.
MRS. D. R. HARRIMAN.
Box 142, Newark, O.

Protecting Harness from Rats.—To keep rats from gnawing harness, to every pint of harness oil add one heaping teaspoonful of finely ground black pepper, and apply to harness in the usual way.
Johnson City, Tenn. J. W. SNODGRASS.

When Cooking Beans, try putting the pork through the meat chopper. Then mix with the beans. It is very nice, and not more than half the amount is required.

Always Keep Some strips of old, soft white cloth of different lengths and widths in a convenient place in case of cuts and burns. BERTHA LAWRENCE.
Spafford, N. Y.

A Good Wood Box. Make it 3 feet high and large enough to hold wood enough for two days' use. It must stand on four strong legs, with a castor in each, so it may be easily moved in sweeping, etc. Have a slanting top, with a lid and strong hinges. The bottom of the wood box proper, should be of strong slats, wide enough apart to allow dust to go through, but not wood. In the bottom of the wood box, just below the slats, should be a drawer to hold the kindlings. At one end of the box place hooks to hold shovel, poker, etc. A large tin match box should be placed above all and out of reach of small children. This wood box can be stained or painted to suit the taste. ADA H. PARKER.
Zelda, O.

To Relieve a Choked Cow.—A neighbor turned his cows into his orchard with fallen apples. One cow became badly choked with an apple. We took a piece of rubber hose three feet long, rather stiff; we greased this with lard, held the cow's head up and shoved the hose down her throat, pushing the apple down in the stomach. A piece of rubber about one and a half inches in diameter is the proper size. Cow all right. Another plan I have tried with good success. Soon as the cow is choked, lose no time in getting her into the stanchion, draw the head up with a rope and fasten. Melt one pint of lard, put in a long-necked bottle; while warm pour down throat. She will struggle to throw lard out; the throat being well greased, will cause the apple or potato to slip out easily. F. J. MCALLISTER.
Alliance, Pa.

Device for Marking Ground. — Like many others I find a common wheelbarrow a good thing to mark off ground for setting plants, etc. But the low wheel is some trouble to keep in line with stakes. I overcome this difficulty by placing an upright stake on the wheelbarrow and thus keep the stake on wheelbarrow in line with my eye and other stakes. C. D. LYND.
R 6, Parsons, Kan.

The Start

In married life is generally made on an equal footing of health in man and wife. But how soon, in many cases, the wife loses the start and fades in face and fails in flesh, while her husband grows even more rugged and robust.

There is one chief cause for this wifely failure and that is, the failure of the womanly health. When there is irregularity or an unhealthy drain, inflammation, ulceration or female weakness, the general health is soon impaired.

Dr. Pierce's Favorite Prescription cures womanly diseases. It establishes regularity, dries unhealthy drains, heals inflammation and ulceration and cures female weakness. It makes weak women strong and sick women well.

"A little over a year ago I wrote to you for advice," says Mrs. Elizabeth J. Fisher, of Diana, W. Va. "You advised me to use Dr. Pierce's Favorite Prescription and 'Golden Medical Discovery,' which I did, and with the most happy result. I was troubled with female weakness and bearing-down pains. Had a very bad pain nearly all the time in my left side, nervousness and headache. Was so weak I could hardly walk across my room. Could not sit up only just a little while at a time. My husband got me some of Dr. Pierce's medicine and I began its use. Before I had taken two bottles I was able to help do my work. I used three bottles in all and it cured me. Now I do all my housework. It is the best medicine I ever used."

The Common Sense Medical Adviser, in paper covers, is sent *free* on receipt of 21 one-cent stamps to pay expense of mailing *only*. Address Dr. R. V. Pierce, Buffalo, N. Y.

MILK FEVER OR PARTURIENT APOPLEXY.

THIS is a disease peculiar to parturition or calving. It is not a fever as is generally supposed; the rise of temperature to 101 or 2 degrees F. is always favorable.

Symptoms.—The cow appears a little weak or unsteady in the hind quarters, has difficulty in rising, forgets her calf, the secretion of milk is suspended, she staggers and falls, and is unable to rise, her head is thrown to her side and she becomes unconscious of everything about her. Cows most subject to it are deep milkers, fat animals, about the third calf, after an easy, natural birth.

Treatment.—Nux vomica or strychnine has given us best results. Tincture of nux vomica in from 2 to 4 dram doses may be placed on the tongue every two hours. If twitching of the muscles is shown, decrease the dose. The urine should be drawn with the catheter. The rectum should be emptied by copious injections of warm water.

A physic is dangerous to administer and almost useless, as the animal will have died or recovered before a physic could operate.

The iodide of potash in parturient apoplexy is now being employed quite successfully. One hundred and fifty grains of iodide of potash should be dissolved in a quart of boiled water. Then one-fourth of this should be injected, at the temperature of the blood into each teat. Bag should be thoroughly kneaded immediately after injection. Injections should be repeated in twelve hours if the animal has not improved. Before using injections, the udder should be thoroughly cleansed with carbolized water or one to one-thousandth solution of bi-chloride of mercury. All the milk should be completely drawn.

If the temperature rises or the rectum fills with fecal matter, it is a very favorable indication. Prevention is better than cure in these cases, as the disease is extremely fatal. Light, laxative feed for two weeks before calving with plenty of exercise, wards off attacks.

All through this treatment give Dr. Hess' Stock Food, a powerful tonic and reconstructive, which gives additional value and nutriment to the food and steadily strengthens the animal's entire systemic condition. The improvement will be noticeable after the first three or four doses—and entire recovery will quickly follow. In every package of this food is enclosed a little yellow card entitling the purchaser *free* prescriptions from Dr. Hess.

Dr. Hess' Invaluable Stock Book—a medical treatise in practical form—will be sent free to anyone that will write Dr. Hess & Clark, Ashland, Ohio, mention this paper and state what stock he has and what stock food he has used.

IRON AGE Book Free describing one and two horse cultivators, Potato Planters, Wheel Hoes, Seed Drills, etc. Bateman Mfg. Co., Box 101, Grenloch, N. J.

PAINT Anti-Trust, Fireproof Economical — Durable.
Saves you 50 to 80% on your PAINT BILL. Instructive booklet, "Economical Painting" and sample of Paint mailed FREE. We are not in the trust. WARD PAINT CO., 721 Larrabee St., Chicago.

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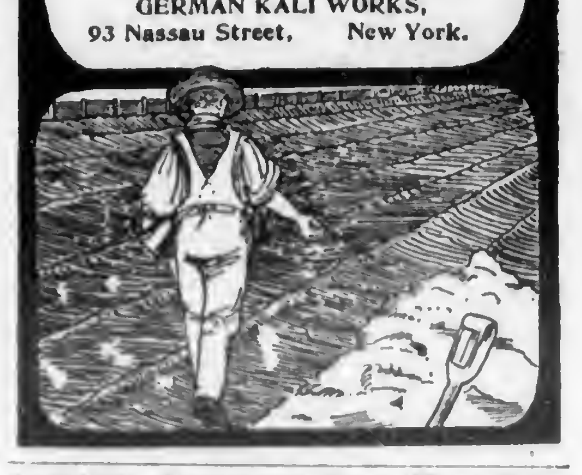
The thresherman has many reasons, too many to give here. Summed up, it means the model threshing outfit, the best money can buy. You will find the latest catalog on Rumely's Rear Geared Traction Engines and New Rumely Separators full of threshermen's logic, argument that convinces. Write us for it. Mailed free.
M. RUMELY CO., LA PORTE, IND.

AN ACRE OF CORN and its possibilities under the Silage system—being the theme of "A BOOK ON SILAGE" By Prof. F. W. WOLL of the University of Wisconsin. Revised and up-to-date, neatly bound into a volume of 234 pages. It embraces full information from planting to feeding the crop, and includes working plans and specifications for building all silos. Also embraces:
I—Silage Crops. II—Silos.
III—Silage. IV—Feeding of Silage.
V—Comparison of Silage and other Feeds.
VI—The Silo in Modern Agriculture,
And illustrations and complete plans for round and rectangular silos, dairy barns, tables of compounded rations, etc. Mailed for 10c. coin or stamps.
SILVER MFG. CO. Salem, Ohio.

DO YOUR OWN THRESHING. The two horse power Little Giant Thresher and Cleaner enables the farmer to do his own threshing. Save expense and thresh when you have the time. No waiting for the job thresher. Thresh for yourself and your neighbors. Clean threshing, perfect cleaning. Grain ready for market. Capacity 200 to 500 bu. per day. Threshes all grains and grass seeds. Runs by steam or other power. Tread powers for 1, 2 or 3 horses. Can be used for sawing, shelling, pumping, feed cutting, etc. Send for catalog. Free. HEEBNER & SONS, No. 21 Broad St., Lansdale, Pa.

ENGINES AND SEPARATORS
There is no record of a FARQUHAR BOILER ever exploding.
The Farquhar threshing machinery is the perfected product of the pioneer manufacturers of Grain Separators and Threshing Engines. It is the most durable and cheapest threshing outfit a farmer can buy. The Celebrated Ajax Threshing Engines, made in sizes from 4 h. p. up, have seats, foot brakes, and two injectors. Provided with every approved safety appliance. Farquhar Separators have every advantage of capacity, thoroughness of separation, simplicity and durability. Every part thoroughly tested. Made in all styles and sizes. Send for free catalogue of Engines, Threshing Machinery, Saw Mills, etc.
A. B. Farquhar Co., Ltd. York, Pa.



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with fertilizers rich in
Potash
and your crop will crowd your barn. Sow potash and reap dollars.
Our five books are a complete treatise on fertilizers, written by men who know. Write for them.
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SAMSON Galvanized Steel Wind Mills. Sold under a most positive guarantee. Write for handsome illustrated Catalogue FREE. The Stover Mfg. Co., 562 River St., Freeport, Ill.

Scientific Grinding Mills grind corn the ear or in grain in any form. Strong, exact, reliable. Catalog Q mailed free. FOOS MFG. CO., Springfield, Ohio.

Acme Harrows Indestructible. Cheapest because the best. Send for cat. DUANE H. NASH, Sole Mfr., Millington, New Jersey, and Chicago.

BALES 15 TONS A DAY HAY
The Gem Full-Circle baler, lightest, strongest, cheapest baler. Made of wrought steel. Operated by 1 or 2 horses. Bales 10 to 15 tons a day. Sold on 5 days' trial. Catalogue free. Address GEO. ERTEL CO., Quincy, Ill.

Cow Peas For Seed Northern Grown
Hammond's Extra Early, Whippoorwill, Clay, Wonderful, Black's, $1.50 per bu., mixed $1.20. Medium Green Soja Beans, $2 per bu. Dwarf Essex Rape, 4c. a lb.
HARRY N. HAMMOND SEED CO. Ltd.
Box 47. Bay City, Michigan.

Fearless Threshers.
Best for single farmer or several neighbors. With tread power it's all indoors. Suitable for either horse power or engine. Threshes and cleans perfectly. Runs easy. Also Horse Powers, Engines, Feed Cutters, Wood Saws, Silos, etc. Send for catalogue.
HARDER MFG. CO., Cobleskill, N. Y.

Ariel Tenting Cloth
(Patented Jan. 13, 1903)
Made from extra staple cotton in a way to fortify it against wind, rain or hail; is the only perfect cloth for growing
Tobacco and Vegetables
under shade. Our patents cover strengthened edges and cross strengthening cords. Made in widths of 144, 200 and 288 inches.
The wonderful results obtained with shade-grown tobacco are bringing to the attention of gardeners the advisability of using it for vegetables and flowers. Experiments at *Government and Cornell University Experiment Stations* last year show 25% to 40% increase in quantity and quality of Beans, Cauliflower, Lettuce and like crops. Every tobacco grower, gardener or farmer only needs try the experiment.
Free Samples and Circular with Prices on request.
J. H. LANE & CO., Gen'l Agts., 110 Worth St., New York.

Mistakes, Failures and Successes.

In this department we publish the Mistakes, Failures and Successes of our subscribers. They are equaly instructive and necessary, pointing the way to success. Subscribers are cordially invited to send accounts of efforts they have made which resulted in failure, as well as those which proved successful. Give in a few words your experience of anything connected with farm or household work. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Only helpful communications of value to P. F. readers will be accepted. The head of the column will be considered the position of honor each week. Send all communications to Geo. T Pettit, Oneida, Kan.

My Experience with Teosinte and Pencillaria. — Seeing these advertised as wonderful forage plants, I last spring procured a pound of teosinte and one-fourth pound of pencillaria and planted them. It was a little late, about the middle of May, when they were planted. The spring was rather dry and they did not start off well, the teosinte making such a slow growth that I only got to cut it once. I planted it in rows like corn, about 2 feet apart in the row. It was very heavy, about 8 feet tall, and made a little more fodder than the same sized strip of Indian corn, but no grain. The pencillaria I cut three times; it made as much fodder each time as corn would. Stock did not like either quite as well as corn fodder. My judgment is for alfalfa, clover or corn in preference to either. Where there is no alfalfa or clover, and insufficient pasture, I would plant pencillaria, as it does not require such hot weather as teosinte.
Ottawa, Kan. J. R. COE.

To Prepare a Cold Frame.—Select a southern exposure, dig down eighteen inches, fill in with stable manure, well rotted, six inches; on the top put good garden soil. Have a wooden frame on sides, with sashes of glass on top. Let stand a few days until the top is well heated from the manure, then sow lettuce and radishes. They will be three to four weeks earlier if planted in this way, and later the lettuce can be transplanted into the garden to grow heads, where it can be hoed to make large growth.
Danbury, Conn. S. E. KELLOGG.

Our Cow Stalls. — I happened to look into an up-to-date farmer's cow stable a short time ago and looked at his cow stalls; they suit me very well, and perhaps someone else may like them also. They are very simple, inexpensive and cost less to keep them in repair than any other stall in use, and his cattle like them. They are less in the way, take up less room, and, in fact, are just the thing for the man as well as the beast. There is no patent on them, and when once put in the barn they need never be taken out to make room for something else. The description of these stalls may be stated in three words: *He has none;* does not need any. Cows do not kick like horses; a man can sit down to milk between two cows as well as between a cow and a board partition. If young cattle are used to running together in the field they can be put chuck up together in a stable without stalls and let them eat together in one long, straight trough and manger like sheep. If there are older cattle in a stable and no stalls, they can be tied closer than with stalls and have more room for the cattle as well as the man who tends them. If one cow is "bossy" it will be better to tie her than take up so much room in the stable with board partitions. It will cost nothing to try these stalls and it will cost nothing to remove them if you do not like them, and you have a stable where you can let your cows loose or tie them as you choose.
Wickliffe, Va. J. H. DUBLE.

My Worst Mistake.—Most farmers are much more apt to write of their successes than their failures, but we may learn much from our failures if we only will. The worst mistake I ever made, from the standpoint of a successful farmer, was in being too easily discouraged, and not "sticking to it" hard enough when I knew I was on the right track. About fifteen years ago I had a 40-acre farm, with a big debt to struggle with; about that time I began to read of Mr. Terry's success with clover and potatoes, and resolved to try his way to get out of my trouble. But for the first two or three years it was very uphill work on account of very dry seasons, lack of clover enough to properly fertilize the ground and low prices. I planned, however, to put in a large field of potatoes the next year, hoping conditions, prices, etc., might be better. But the next spring I was offered two dollars a day to do carpenter work on a large factory building, and the sure cash looked bigger to me than the possible greater gain, so I accepted the offer and let my land lie practically idle. Now for the result. I worked 122 days and received $244 for it, while a neighbor a few miles from my place plowed up a 22-acre field of sod ground, no better soil than mine, planted it to potatoes, tended them well and harvested almost 4,000 bushels, and the price was good, too, for he received nearly $3,000 for the crop. The moral is too plainly visible to need any further comment. EDWIN HUNT.
22 George St., Grand Rapids, Mich.

Raising Cabbage. — I will tell you what I think is a help to those who raise cabbage especially. I always sow my early cabbage seed in an out of the way spot in the garden on Good Friday. As the old lady said she "always planted her cabbage seed on Good Friday if it did not come on Sunday." So that is the way I do, and I never fail to have good cabbage, and I notice I am not behind my neighbors in having early cabbage also. One thing which I tested last year and found all right to make early and late cabbage head, also cauliflower, is nitrate of soda. I had heads as solid and hard as you ever saw cabbage. I skipped some to see the difference, and when we came to gather them we did not need glasses to see the difference. Do not put on too much; I tried that, too. When the cabbage begins to head dig the ground up loosely around each plant and put one teaspoonful of the soda around it so it will not touch the plant, and hoe it into the ground and you will be rewarded with a dandy head of cabbage. I tried putting two teaspoonfuls on and that cabbage soon got tired growing and quit. Too much.

Mangels for the Hens.—Now if you keep hens do not forget to sow a few rows of mangel wurzel beets for them. I had nine bushels and now I wish I had far more, for the hens do relish them when they can get nothing green. They also like the cabbage that is not needed for house use. I put everything into the cellar for the chickens. I have tomato, celery, root celery and pepper seed started in the house to make early plants, for I think there is not a spot on the farm that helps the table to groan under its load any more than the garden, and if rightly managed will save a good many bills at the grocery. MRS. MAGGIE RITCHIE.
Northfield, O.

Wild Onions and Wheat.—In this section of the country some of the fields are terribly poisoned with wild onions, which damages the sale of the wheat raised among them. One of our neighbors has hit upon a plan whereby he avoids this annoyance. The onions, which seed with wheat, come up in the fall previous to wheat sowing time. The custom is to double disk land which has been in cultivation, but this does not affect the young onions which are just coming through the ground; so instead of disking or double-shovelling, he uses a turning plow and turns the young onions under where they will not come through in time to seed with the wheat.
Sladersville, Tenn. G. M. PARDUE.

Keeping Eggs.—I will give my experience in keeping eggs, as I have not seen this method in print. Fresh laid eggs were placed in common pasteboard boxes, on end, as eggs are packed, then covered completely with common white flour and stored in a cool place. After three months they were found fresh and nice and scarcely discernible from freshly laid eggs. I used common shoe boxes, which hold about two dozen each, the number of eggs and date of packing being written on the cover so the first packed could be used first. Eggs packed in a mixture of lime water and salt are nice for cooking purposes, but after a couple of months are unfit for eating. BEATRICE TURNER.
Angwin, Cal.

Bluing Clothes. As there seems to be a good deal of poor bluing I wish to tell the ladies of a sure way to prevent it from spotting the clothes. Sift it out on a white cloth and gather up the cloth in the hand so it will not spill. Now dip it in the water and squeeze out; do this until the water is blue enough, and I will insure your clothes not to be spotted.

Shoe Strings.—A good way to treat shoe strings that have lost the tins off the ends, is to take needle and thread, and beginning back of where it has frayed, sew it over and over out close to the end and fasten well. Then cut off nicely, which will make it stiff enough to go through the eyelets easily.
Niota, Tenn. MRS. DORA H. SCOTT.

Scratches in Horses.—This is my first year as a subscriber to the P. F., and as I have noticed several complaints of scratches in horses, I want to give P. F. readers our method of treating the disease in this community. Simply bathe the affected parts with warm water and some mild soap, Castile preferred. Wipe dry and apply castor oil; it may require more than one application. Keep the horse in a clean, dry stable. I know this is good and so simple and painless. I heard one of my neighbors say just a few days ago that he bought a horse that had scratches extending nearly up to the knees and this remedy cured it. I hope someone will try it and report results.
Middleburg, N. C. MRS. M. D. FLEMING.

Garden Pest Remedies. — Air-slacked lime sifted over melon, squash, and vines of like character is the best remedy against the melon beetle. Tobacco water sprinkled over plants infested with aphis will drive them away or kill them. C. G. DILWORTH.
Berlin, Md.

Deep Planting of Garden Seed. — Nearly all novices in gardening make a mistake in depth of planting. I have found by experience the proper depth of covering depends upon the size of the seed, its habits of germination and early growth. Deep planting of seeds in early spring in cold, clay land is a frequent cause of failure to come up. I have known beans to be planted so deep that they either never came up, or spent so much vital force in the process as to accomplish nothing afterwards. I have had splendid success in growing beans on a light, loose soil. In planting beans I am careful to cover not more than 1½ inches deep. In planting cucumbers the germ end of the seed should be planted down. HARRY WALLACE.
Doudton, Ky.

A Cooking Experiment. — A graham pudding had begun to cook against the side of the mould before I noticed and had not risen in the least. Investigation disclosed that I had used cream of tartar instead of soda. I removed it from the fire and put to cool in a pan of water. With a wire potato masher I managed to get it well mixed by the time it was cool enough to add the soda, which was dissolved in tepid water. I then gave it another mixing with the wire masher, adding about two tablespoonfuls graham flour. Then with a wire spoon egg beater I thoroughly incorporated the mixture, put it back to steam and had a very light pudding. The recipe does not call for cream of tartar, but I believe it would be an improvement.
Steubenville, O. MRS. G. M. WARREN.

Two-Year-Old Peas Grew. — Some months ago a subscriber asked the P. F. if cow peas which were kept two winters would grow the following spring. The Editor thought they would, but had no experience to back up his opinion. Last June I planted some Warren's Extra Early which I raised in the summer of 1900. I planted them with a corn planter that plants two rows at once, and I think they came up as well as if they had been new peas. C. T. ALLISON.
Limestone, Pa.

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Pleasant, Palatable, Potent, Taste Good, Do Good, Never Sicken, Weaken or Gripe, 10c, 25c, 50c. Never sold in bulk. The genuine tablet stamped C C C. Guaranteed to cure or your money back.
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Find inclosed money order for $5, for which send me another bottle of "Save-the-Horse" spavin cure, as it has done all you claim for it for me. With the bottle I bought of you I took off a curb, spavin and side bone on a three-year-old mare that other spavin cures refused to help in the least. I consider your spavin cure the best on the market. E. M. PARSHALL.
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Inclosed check for $5, for which you will kindly send me by Wells-Fargo Express one bottle of "Save-the-Horse" soon as possible. The horse I have been treating with "Save-the-Horse" went sound and I sold him, and the last I heard from this horse he was still going sound and working every day, and I think he will stay sound. The bottle I am ordering now I will use on another horse that has a pair of spavins and a curb; he walks on his toes, but I think "Save-the-Horse" will bring him around so that he will walk all right. OTTO MEYER.
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Cold Water or Ready Mixed Paints. Paints. We bought at Receiver's Sale from a leading paint house, a very large quantity of Cold Water Paints and Ready Mixed Paints. Equal in grade to any on the market. Here is a Genuine Paint Bargain. Before placing your order, write us for our special prices. You can surely save money, without sacrificing quality.
Farm Forges $8.00. We bought several car loads of new Portable Forges at a low price. We have also for sale horseshoes, horseshoe nails, bl'ksmith tools of all kinds. Hardware. 500 doz. single bitted axes @ 35c. 175 doz. double bitted axes, 2d qual. @ 40c. 6,000 Dietz Lanterns, few slightly affected by water. Write for prices.
Building Material. LUMBER, SASH, DOORS, ETC. We carry a complete stock of first class Building Material of all kinds. Send us your bill for estimate. 10 CARLOADS OF NEW DOORS AT $1.00 each. HARDWARE SUPPLIES. Write for our catalogue of builder's hardware. The per cent of the dealers profit we can save you will prove a revelation.
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This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

Located 5 miles from Perry, in Wyoming Co. A good, fertile farming country. Land worth $40 to $60 per acre. Help scarce at $20 to $26 per month with board and lodging. A good bean section, also good for apples. Creameries are nearby and a good many farmers going into dairying. A good many lambs fatted in winter. Prices as follows: Wheat, 75c.; oats, 45c.; beans, $2 per bu.; beef, 6c. per lb. by the side; young pigs, $3 each; dairy butter, 22c. per lb.; eggs, 12c. per doz.; apples, $1 to $1.75 per bbl. A very rainy, backward spring.
Chas. Jeffers.
La Grange, N. Y., May 4, 1903.

Located in Ohio Co., 4 miles east of Wheeling, 3 miles north of Elm Grove, in the Pan Handle of W. Va. Farm work is very late, on account of extremely wet weather, and farm help is scarce. Trucking is carried on extensively. A fine farming country, but fruit does not do well. Wheat is looking well and grass is making a fine start. Prices at present: Hay, $16 to $18 per ton; wheat, 75c.; oats, 40c.; corn, 60c.; potatoes, 75c. per bu.; horses, $50 to $200; cows, $20 to $50 per head; hogs, 5 to 7c. per lb.; chickens, 50 to 60c. each; eggs, 15c. per doz.; butter, 30c. per lb.; farm help, $1 to $1.50 per day; land, $50 to $100 per acre, according to location.
Geo. M. Butler.
R 1, Elm Grove, W. Va., May 4, 1903.

Situated in Franklin Co., Tenn., the garden spot of Middle Tennessee, 82 miles from Nashville and 69 miles from Chattanooga, on the N. C. & St. L. R. R. Land generally level and very productive when handled right. Crops are wheat, oats, corn, peas and clover. Wheat and oats fine; corn being planted when dry enough Weather wet and cool. Prices: Corn, 75c.; wheat, 80c.; oats, 50c. per bu.; horses, $80; mules, $100; cows, $30 each; hogs, $5.50; beef, $4 per cwt.; hens, 9c. per lb.; eggs, 10c. per doz.; farm help, $10 per month and board.
Mrs. Allen Garner.
Alto, Tenn., May 2, 1903.

Located in North Central Kansas, about 13 miles from the Nebraska line, in Republic Co., 3 miles east of Belleville, the county seat. Good farming country; good schools and churches. Winter a little severe, but nice spring. All crops looking fine, such as wheat, rye, alfalfa and oats just coming up. All farmers are busy. Prices: Horses, good, from $75 to $125; cows, $20 to $35 each; hogs, $7 per cwt.; eggs, 10c. per doz.; butter, 12½ to 15c.; chickens, 7c. per lb.; corn, 31c.; oats, 35c.; wheat, 65c.; potatoes, 50c.; alfalfa seed, $8 to $12 per bu., which was very scarce this year; hay, from $5 to $8 per ton; land sells from $15 to $40 per acre and still rising. Ground in fine shape.
John E. Blackburn.
Belleville, Kan., May 2, 1903.

Located in South Central Florida. Climate delightful and health fine, in a country where three-fourths of the land is covered with virgin forest; where there are many beautiful lakes abounding in fish; where the lands are gently rolling and much of it very productive, with the greatest variety of products. Truck farming and stock raising, sawmilling, turpentine making and mining phosphate are the principal industries. You will now find our truckers busy shipping string beans, squash, cucumbers and new Irish potatoes, dewberries and strawberries; canteloupes and tomatoes will be added in a few days. A few tomatoes ready for shipment now.
W. E. Embry.
Dade City, Fla., May 1, 1903.

Eastern part of Rockingham Co., 2½ miles from Elkton, a nice railroad town surrounded by a good farming country. Farmers prosperous and improving in methods and stock. General farming and stock raising the rule. March was calm and warm; April has been cool and wet. Wheat and grass looking well; corn being planted; some plowing to do yet; late apples promise a good crop; early blooming fruit killed by frost. Produce and prices: Wheat, 80c.; corn, 60c.; oats, 40c.; potatoes, 50c. per bu.; hay $15 per ton; horses, $100 and up; cows, $25 to $40 each; hogs, 6 to 6½c.; lambs, 5c.; veal calves, 5c.; butter, 20c. per lb.; eggs, 12c. per doz.; hands, 50c. to $1 and board per day, $10 to $20 per month; girls, 75c. to $1.50 per week; land, $25 and up per acre.
Jos. T. Maiden.
Elkton, Va., May 4, 1903.

In Cherokee county, on T. & N. O., I. & G. N., and Cotton Belt Ry's. Country rolling; many kinds of soil, light sandy to heavy bottom. Crops are cotton, corn, potatoes and tomatoes. Many large peach orchards. Little hay and grain. Crops in fine condition. Weather dry, windy and cool. Corn has been plowed once; cotton up; tomatoes blooming; potatoes large as guinea eggs; strawberries been ripening a week; dewberries ripening now. Gardens fine; woods at their greenest and grass at its finest. All kinds of labor scarce and high. Horses, $25 to $75; cows, $15 to $30 each; butter, 20c. per lb.; eggs, 15c. per doz.; hens, 25 to 30c.; fryers, 20c. each. Hogs, none for sale; sheep and goats no demand.
S. H. Lane.
Jacksonville, Tex., April 30, 1903.

Located in Clay Co., 24 miles west of Landon, the nearest railroad station. Farmers have been delayed in their work on account of bad weather, but it is now over and corn planting is on hand. Country is too mountainous to permit farming on an extensive scale, though there are fertile valleys and bottom land that produce well. Land being run down by continual corn cropping; scarcely any legumes raised nor anything done to improve the soil. Farmers would profit much by reading the P. F. Prices as follows: Corn, 60c.; potatoes, 50c. per bu.; eggs, 10c. per doz.; butter, 15c.; bacon, 15c. per lb. Abundance of coal and salt near here, but they are mined only for local use.
Jere Moore.
Manchester, Ky., May 1, 1903.

Have had plenty of rain, mud and slush the past winter. Farmers are considerably behind with their work, on account of bad weather; having fine spring weather now; corn planting on hand, also gardening. Wheat and winter oats promise a good crop; clover and grass looking well. Land hilly but very productive. Health very good. Fruits of all kinds injured by heavy frosts. Prices: Horse and mules $100 to $150 each; beef cattle, 5c. per lb. on foot; butter, 20c. per lb.; eggs, 11c. per doz.; chickens, 10c. per lb.; hogs scarce and high. Roads very bad. The country is well supplied with telephone lines, also free rural mail delivery. Timber is all put out; stock has been put out on range. Hired help scarce. Good schools and churches. Have pure water and plenty of it. Long live the P. F.!
S. R. Hawk.
Indian Springs, Tenn., May 4, 1903.

Winter wheat in fair condition; on thin ground prospects poor. Oats all seeded and up; average acreage sown; crop put in in bad condition, ground too wet. Meadows made good start in March; April has been too cold, checking growth of all vegetation. Snowed April 30th, and night of May 1st big frost; ice one-quarter inch thick and ground slightly frozen. Will not be an average acreage corn crop in my neighborhood; planting just commenced; ground too cold. Recent cold snap damaged all kinds of fruit buds. Potatoes all planted; gardens in bad condition; only a few planted yet. Pastures short. Stock in fair condition and prices for same good. Has been big demand for mules, also for 60 to 125-pound hogs; brood sows high. People feel confident and lots of improvement going on, such as fencing and new building.
E. E. Easley.
Columbia, Mo., May 2, 1903.

Situated in Gratiot Co., Mich., near Alma, which is a thriving village of about 2,000 inhabitants. This is quite a prosperous farming community. We are on two main lines of railroad, crossing each other, thereby giving excellent transportation in any of the four directions. The past month was cold, damp and dreary; more like March generally is here. Oats are nearly all in and a large acreage was sown; wheat is promising on high ground; low not as good; new seeding looks fine and a large hay crop expected. Stock wintered well and prices are satisfactory. The Central Michigan Produce Co. is located here and they are already shipping 20,000 dozen eggs daily, besides thousands of pounds of butter, wool and fowls. Have a large sugar beet factory, and farmers are generally pleased with the returns from that crop at the end of the year. Cold storage plant now under construction, also new buggy and wagon factory and a new electric railroad being strongly agitated. Present prices: Wheat, 70c.; oats, 32c.; corn 58c.; rye, 48c.; beans, $1.75; potatoes, 45c. per bu.; butter, 18c. per lb.; eggs, 15c. per doz.; horses scarce, from $50 to $200; cows, $30 to $75 each; hogs, 7c. per lb., on foot.
O. R. Robertson.
R 3, Alma, Mich., May 2, 1903.

Located in Fairfield Co., 30 miles south of Columbus, our State capital. Country hilly. Good roads. Rural free delivery. Land productive; high in price, varying from $25 to $200 per acre. Plenty of hard-wood timber. Lancaster, our railroad town, with 9,000 population, furnishes a good market for everything. Plenty of natural gas; burned by meter, 20c. per 1,000 feet. Spring work late. Much rain; fine weather now; no corn planted; spring oats doing well; wheat and grass looking fine; fruits not injured, excepting peaches and early cherries. Prices as follows: Horses, $25 to $200; milch cows, $20 to $60 each; beef cattle, 2½c. per lb.; hogs, $3.75; shoats, 9 months old, $4.00; lambs, $5; old sheep, $3.75 each; chickens, 7 to 8c.; butter, 20c. per lb.; cream, 80c. per gal.; milk, 40c. per gal., delivered; eggs, 12c. per doz.; hay, $10 to $16 per ton; wheat, 72c.; oats, 35c.; corn, 42c. per bu. Success to P. F. and subscribers.
R. L. Phillips.
R. 1, Lancaster, O., May 5, 1903.

The farmers in our section are the happiest, busiest and most contented people we have. Prospects predict an unusually good year. The spring crops are all in and corn plowing and planting are in order. The winter sown crops are up and in fine condition; clover promises an abundant crop; the outlook for fruit was never better until April 30th; a storm of snow and sleet, followed by a frost, has destroyed the blossoms; apple and plum trees suffered the most. Stock in general is in fine condition; sheep and hogs were never better and cattle are in good shape. Grass is in fine condition and stock has been turned out; poultry, as a rule, is on the decline, disease infesting flocks; hatching is very poor, only getting three or four chickens from a sitting; turkeys, on the contrary, are very successful, and eggs to set are very scarce; young cattle, horses and sheep are doing nicely; pigs are not up to the standard this year. Some farmers are seeding down their farms as help is so scarce and expensive.
A. O. Bills.
Richland City, Wis., May 2, 1903.

Located 7 miles south of Charlotte, N. C. Winter wheat and oats were very promising until the middle of March, when they "fired" from the cold, wet weather, and have deteriorated very much, perhaps 50 per cent. for the county; spring oats are looking well; cotton planting will be finished about the 10th inst., which is a week late for our county; very little corn land plowed, and it is becoming green with weeds. Stock of all kinds is looking well, especially cattle, as pastures are unusually good for this time of year. Farmers are in good spirits and hoping for good summer crops, as prices are high for all farm products. Cotton, $10.40 per cwt.; wheat, $1; corn, 75c. per bu.; butter, 15 to 25c. per lb.; horses and mules, $75 to $200 each; land, $10 to $100 per acre. We have over a hundred miles of macadam roads in our county.
John McDowell.
Charlotte, N. C., May 2, 1903.

Calf Scours Don't let your calves die from this disease. You can save them by using Hood Farm Calf Scour Treatment, which consists of Calf Scour Cure, a liquid preparation which checks the scours, and Digestive Powder, a preparation of pepsin, which aids digestion, creates an appetite and keeps the calf from becoming stunted in growth.

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2,000 bushels cow peas of all varieties. Write for samples and prices. References: Editor this paper and Banks of Raleigh, North Carolina.
L. H. ADAMS, Raleigh, N. C.

COW PEAS.
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Just received from Aroostook county, Maine. Fine, clean, plump, true stock. $3.25 per barrel; 5 barrels, $15.00.
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Made from finest quality of Swiss Bell Metal, they are light but strong and lasting. Musical in tone. They add to the appearance of herd besides making them tame and tractable. Strap with each. Sold direct in sets or singly to introduce. Made in 8 sizes. Circulars on Cow, Sheep and Turkey Bells Free.
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THE PRACTICAL FARMER.

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THE KEYSTONE TO SUCCESSFUL FARMING

Published Weekly By
THE FARMER CO.,
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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

What Crops to Grow This Year Where Timothy is Wanted Next Year.

A. B. Wilson, Dudley, Pa., has a small farm and must make the most of it. He writes about some clay bottom land that he has just drained so it is fairly dry. He wants to get the most feed possible from this land this summer and have it grow good timothy next season. He speaks of seeding with wheat, or rye, so he evidently thinks these crops would do well. My opinion is that the safest plan would be to work the land very thoroughly every few days, until about ten days after corn planting time, making it very fine and nice, and then sow about three pecks of Hungarian seed per acre. It should be sown broadcast and covered about an inch deep, on this clay land. Harrow it in, but do not roll the last thing, as a heavy rain might cause a crust to form that the plants could not get up through. You can roll it after the plants are up two or three inches high, if you want to make it smoother for mowing. The crop can be cut for hay in about 60 days. This will be about the first of August, perhaps. Then plow the ground as soon as you can, and harrow down as you plow, and work it again very thoroughly, every few days, and always as soon as it is dry enough after every rain, until time for grain seeding. Rye will be all right to seed with, or wheat, as you may think best. I should be careful to seed lightly with wheat, as this land, just drained and thoroughly worked, will be likely to bring a large growth of straw. Sow timothy seed when you do the grain. If you are afraid of trying small grain you can sow the timothy alone about the middle of September. Make the soil very, very fine, and roll the seed in, and then harrow the last thing with a smoothing harrow, or weeder. The ground should have a good sod on it before winter, providing the soil is fertile and the weather not over dry, and bring a large crop next year. Where there is some risk in raising small grain this is an excellent way. The timothy will be a very certain crop, as it can be put in in good season and have all the fertility to itself. I have seeded this way on such land. The Hungarian may not bring you as much feed as corn would, but it grows in much less time, thus enabling you to prepare the land well and get in wheat or timothy on time, and the surface will be left smooth for mowing. You can grow corn, of course, and take it off as soon as mature, and hurry in small grain and timothy. In this way you would probably get rather more feed this year, and less grain and a poorer seeding next year. My friend, you should have sent your question in sooner. This reply will be rather late for you, I fear, but the matter will be of interest, perhaps, to quite a few more Northern farmers. Far enough South so cow peas do well, and where they can be taken off for proper fall seeding, of course they would be a better crop to grow than Hungarian grass. Here in Northern Ohio, the grass is far more suitable. We are preparing land for Hungarian now. We get a large crop of choice cow hay, by cutting it when it is in blosssom.

How to Fertilize Permanent Pastures.—J. Buchanan, Flesherton, Ont., writes as follows: "I would like to know how Mr. Terry treats his permanent pasture land to keep it up to its full productive capacity. Does it have to be re-seeded? What fertilizer does he use on it?" My dear friend, we certainly do not keep it up to its full productive capacity. It is doing well, but might be much better. Whether one can afford to make it better with fertilizers is a question. Our stable manure is all needed on the cultivated land. The pasture is never plowed and we have never sown any seed on it, except on two or three acres that someone plowed years ago and left poorly seeded. There has been very little plowing done on it since it was cleared, along towards 100 years ago. But it is low, moist land, clay or muck, where grass grows very naturally. It is unusually well situated for permanent pasture. We simply do nothing to it but turn in the cows and let them eat the grass, except to mow off any noxious weeds. Of course, considerable fertility is removed in the milk and the growth of young stock. To a certain extent this is made good by grain feeding when the grass is short, or dry. Nature is adding a very little ammonia in the rain water, and slowly dissolving and making available mineral matter in the soil. If not overstocked it seems to hold its own by these various means. It is hard to understand just how this is done on muck land that has little mineral matter in it. I suppose the grasses there are deficient in this line; they must be, but the cows get enough from clover hay, wheat bran, etc., to make it up. I surely believe that the best way to buy fertilizers for pasture land is to buy feed for cows, young stock, sheep, etc., that are running on it. Good management ought to bring about all the money back in milk, growth, etc.; then the land will be improving gradually. Alas, few farmers look as far ahead as this. Personally, I never would take more fertility from a permanent pasture, on the average, than was returned from year to year, as a matter of a wise business investment. Buy fertility in bags, but let it be bags of feed, that furnish the elements the land wants, as well as the cows and other animals. I take no stock in the oft-repeated general remark that a farmer should raise all the feed he needs. Some can, perhaps, to advantage; many cannot and lose by trying to. A Northern farmer who raises all the feed for his dairy and buys fertilizers for his pasture land, for example, will be losing a chance to make purchased feed fertilize his pasture very cheaply. Of course one should try to do this when grain is low, so far as practicable. It sometimes costs but little more than the plant food in it would if purchased in fertilizers.

Good Reports from Improved Methods.—C. L. Armentrout, Witt, Ill., very kindly writes us in these words: "I am anxious to get out of old, unprofitable ruts. The P. F. has been a great help to me. I bought a Hallock weeder two years ago, and am practicing level and shallow cultivation with success. I put cement floors in my cow stables last fall. They are all right, and, as I can see now, they save lots of manure that used to go to waste." This reminds me of what Martin Manahan told me at the Rochester, Minn., Institute in March. By the way, it may interest some to know that there were from 800 to 1,000 people present at this meeting. The business men furnished them free dinners each day. I was at an Institute at Chatfield, Minn., where friend Manahan lives, two years ago. The following is just what he said to me. It is out of place, you may think, for me to repeat it, but never mind, only so it may encourage those who need the help to follow more closely the advice given in these columns in regard to the great general questions of the day. This he said, word for word: "What I heard you say at our Institute has been worth $500 a year to me since. I have got cement floors in my stables; built them myself, according to your directions and am delighted with them." There was time for no more, with so many people crowding around to shake hands. But this was enough to pay one for the discomfort of being away from home in cold weather. Such letters as friend Armentrout's encourage one surely to keep bringing up these matters that are old to many, but which would be so helpful to thousands of others, if they could be encouraged to put them into practice. And this calls to mind another good report. Nearly three years ago Robert Green, Redfield, Ia., wrote me a long letter complaining that there was nothing in my articles for a poor man just beginning; that they were for farmers with plenty of money to spend, etc. I was glad to get the letter, and tried afterwards to make it still plainer that all must adopt the most improved methods for the best success, and the poorer they were the more they needed them. But do you know I was really surprised to get another letter from friend Green last fall, of which the following is the substance: "I have got more good out of your articles since I wrote you last and am wonderfully thankful. This is written to express my thanks. Three years ago I agreed to pay $775 for my little farm in the woods. I had but $100. We have worked hard. Have seven children, mostly small. I have sold out now, intending to buy elsewhere, and have $1,200 of my own, against $100 three years ago. I think we have reason to be proud of our little success; but I want you to know it came through reading 'Our Farming' and the P. F." Dear reader, cannot you get some good hints from what these friends say? Have you got a weeder? Do you practice level and shallow cultivation? Have you got cement floors in all your stables? Now is the time to attend to these matters. The floors should be built soon, so as to get real hard before winter.

Do You Need a Good Sewing Machine?—Several years ago a sewing machine that wife had used a long time, gave out. We could have had it repaired, but it was getting rather out of date anyway, so we got a new one. It is one of the P. F. high arm machines. My wife was much pleased with it, and has been ever since. She is not a woman given to over praising anything, but I have often heard her speak about how still and easily her machine ran and what nice work it did. Two or three years ago a daughter living in Columbus needed a machine, and she preferred to get one of the same kind and has only words of praise for it. Dressmakers who work on all kinds of machines have expressed entire satisfaction with ours. Now what am I writing this for? Simply to tell you, frankly, for your own benefit, and as I believe truly, that you cannot get any better machine of anyone at any price. Many doubtless have the idea that these machines are cheap ones because sold at a low price. They are not. They are as well made and as finely finished as any machine on the market. Our sewing machine is a beauty to look at, as well as to use. If there were better ones we should soon have one, as the writer is not content with anything short of the best. Why are they sold so cheaply? I will tell you. The P. F. sells thousands of them, largely to help its readers, at a very small profit, a mere trifle on each one, as it does not need to handle them at all. They are shipped direct from the factory. Buying in such quantities, for spot cash, they get them at a very low price. Now, agents who go around selling machines must make a good deal on each one, as they may not sell more than one or two in a week. So the regular retail price is kept somewhere about twice as high as the price the P. F. offers them for. It must be, when you buy of agents with large expenses. They will tell you how much better their machine is—better for them, of course, if they can sell it to you; that is all, practically. Now, will you believe them, and part with $20 or $30 unnecessarily, or me, your friend, and keep the agent's profit? It is true that some other machines may have some little thing different from what is found on the one sent out by the P. F. They must have something new to talk about, but the patents have expired on everything of real practical value, so there is almost no difference among the best makes today. This expiring of patents has made the cost very much less. The P. F. takes no advantage of this, but deals squarely with you. It is needless to say that this is written entirely unknown to, and unasked for by The Farmer Co. It is written for my friends, from what I know.

Heath Hints.—Don't Eat Unless You are Hungry.—There are many people think they must try to eat something anyway, whether they are hungry or not, to keep up their strength. Many mistaken mothers will try to induce an ailing child to eat by preparing them something extra nice. How often one sees this, and still it is all wrong. Usually all that is the matter with the child is that too much has already been eaten. The system is clogged. Nature takes away the appetite, so she can have a chance to clean house and catch up, and thoughtless people counteract her efforts. It is all simple nonsense that one must eat to keep up strength, whether he or she wants anything or not. Food taken under such circumstances reduces strength, surely, and does not increase it. It takes strength to digest food. To force the stomach to handle food that it does not call for, that it is not ready for, is using up some of the strength you have and the system cannot take any more from it. Let me urge you once more to let food entirely alone when you have no appetite. when you feel as though you did not want a single mouthful. Wait until you do want it. The stomach knows enough to call for food when it is ready for it, and do the the same thing with children when they are ailing a little and they will quickly get better. Never mind the medicine in either case, only just stop eating until you are hungry. That ought not to be a hard thing to do. Don't eat simply from force of habit, because it is meal time. About four months ago I received a letter from E. W. Giles, proprietor of a hotel at Oxford, Neb., which gives some exceedingly valuable experiences along this line. This is the substance of the letter: "My grandfather, John Giles, when he did not feel well used to practice the plan you advocate in the P. F. He would not eat one mouthful, and not a spoonful of medicine could one get him to take. He would go all day without eating and work as hard as ever. He lived to be 100 years and 7 months old, and his death then was caused by an accident. His son, Edwin Giles, my father, lives with me now. He has followed the same plan about eating; that is, he never eats unless he has a keen appetite, and goes without food when at all ailing until he feels right. In this way he has always kept himself a healthy, strong man. I have known him to go two days without eating, working on a farm just the same as though meals had been taken. He is living today and able to, and does, do a fair day's work every day when it is not too cold. He will be 95 years old March 1st." Of course these experiences do not actually prove anything; these men may have had unusually strong constitutions, but their practices are in full accord with common sense and the best knowledge of the day. The writer has learned to never eat unless he has a keen appetite, and to let up on eating, or stop, if he does not feel at his best. He fully believes in this way of doing. Try it, my good friends, and it will help you.

T. B. Terry.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Clover Failing.—M. Murphy, Basco, Wis.—"I have a piece of clover where the oats lodged badly and killed out the clover in spots. Can I sow anything like oats in the spots where the clover failed. I sowed timothy last fall. Will it hurt either timothy or clover to sow the oats? Could you suggest anything by which I can get a crop of hay?" If there is any timothy on the spots where the clover was smothered we would let it alone and depend on it to make the hay. It would be hard to make a good job of sowing oats on the bare spots, and the result would not be satisfactory, we think. Better let the clover come and mow it and if there is not grass enough to make a stand, then break the sod and sow millet for hay. Your poultry queries have been referred to the Poultry Editor.

Hogs in Orchards.—Miss W. T. Hall, Lockport, N. Y.—"In P. F. of April 4th, Mr. Summer, of Alden, Ill., states that from his experience hogs are injurious to orchards, as they will eat the bark and the small feeding roots. As we pasture hogs in an apple orchard I would like to know if this is true. They do root under the trees, but I thought this would be a benefit." We prefer to have no animal in an orchard. Hogs are the only ones that should ever be there, and they only when the immature fruit and wormy apples are falling, and they should have their noses jewelled to prevent their rooting. The ideal treatment of a bearing apple orchard is to keep it in grass solely for the trees, and to mow the grass frequently like a lawn, and let all the cut grass remain to mulch the trees and thicken the sod. Then fertilize the grass every spring to keep up the fertility of the land, especially with phosphoric acid and potash. A good crop of apples will remove three times as much potash from the soil, in the fruit alone, as a crop of twenty bushels of wheat per acre. Hogs, fixed so that they cannot root, may be useful in eating the wormy apples, but it is far better to fight the codling moth by careful spraying. The most perfect apples we have seen this season were from Niagara Co., N. Y., evidently grown by a man who sprays his orchard carefully. They were free from scab, while nearly all other apples we have seen this season were badly scabbed.

Alabama Land.—W. E. Green, Tivoli, Ill.—"Do you consider the red clay soil in the vicinity of Huntsville, Ala., of the same character as that of the Piedmont region of Virginia, and is that section of Alabama as good as Virginia?" We believe that the soil is of the same general nature as the red soil of the whole Piedmont section, and is what the Soil Survey of the Department of Agriculture calls "Cecil" clay. But we know it only from passing on the railroad, and we know that there are some fine farms near Huntsville. The Editor of the P. F. expects to visit Huntsville the latter part of May, and may have something further to say in regard to the land there a little later on.

Onions in Virginia.—M. B. Garnett, Matthews, Va.—"Seeing that onions are quoted at good prices, I would like to know if they can be grown profitably here. If so, tell us how." The mellow lands bordering on the Chesapeake will suit for the growing of onions very well, and with certain varieties the culture may be made profitable. The culture will depend on the use to be made of the onions. It is probable that early green onions that you can bunch and get into market in March will pay as well as any. These are grown from sets planted in late September. Sow seeds now of the Queen or the Marzajola onion very thickly on soil only moderately fertile, to raise the sets. When tops are ripe take them up and store with the dried tops on them till planting time, and then set in heavily fertilized soil. The sets of the Yellow Potato onion planted in September will give you ripe onions in early July, and at that time the market is apt to be bare of ripe onions and they will bring good prices. But as they do not keep well, they must be sold at once. This variety increases by offsets at the base and does not make seed. The best onion for the general dry crop is the Southport White Globe. Sow the seeds of these in February or as early as you can prepare the land. Fertilize the furrows heavily and bed on this and roll down the ridges and on them drill the seed thin to get a good stand and cultivated perfectly clean. Get our book "Crop Growing and Crop Feeding," from The Farmer Co., and it will tell you all about this crop and others of the market garden you can make profitable.

Growing Tomatoes for Cannery.—J. P. Norton, Clifford, Indiana, writes: "I have a field of clover sod which I wish to plant in tomatoes for the cannery. Part of it is sandy loam and the rest a black loam and is rich. What commercial fertilizers would you advise me to use? Would muriate of potash and nitrate of soda in equal amounts well mixed in the soil where the plant is to be set, just before setting, be all right? What amount would you advise, and would it do to use kainit?" With a clover sod turned under we would not advise you to use the nitrate of soda before setting the plants, and equal parts of nitrate and the muriate of potash would give you too great a percentage of potash. It is a very difficult matter to properly advise in regard to fertilizers on soil one is not fully familiar with. It is probable that your black land needs to have potash applied more than the other, and for the tomato we would use only the high grade sulphate of potash. The best possible manure for tomatoes in our experience, is barnyard manure if it is to be had, and with it mix about 30 pounds of the sulphate of potash to the ton of manure. If you have not the manure then use about 500 pounds per acre of a mixture of 10 parts acid phosphate, 8 parts cottonseed meal and 2 parts high grade sulphate of potash. After the plants get hold of the ground and are growing well it may pay to apply about 100 pounds per acre of nitrate of soda alongside the plants when cultivating. Use this when the plants are dry, as it may scorch the leaves if they are touched by it when wet. Never use kainit on tomatoes. In fact, at your distance from the seaboard the potash will cost you too much in the low grade kainit.

Putting Land in Pasture. — W. S. Smith, Centreville, ———"I have 12 acres of stiff white oak land, which I want to put in permanent pasture. What kind of seed shall I sow, and how much per acre?" As our Postal Guide says that there are 38 Centrevilles in the United States, and the climate in the various sections varies so much that to advise intelligently one should know where the inquirer lives. If you are anywhere in the South Middle States, say Centreville, Md., we would sow the following mixture: Orchard grass, 10 pounds; red top, 5 pounds, and poa compressa, 10 pounds per acre, and would then scatter over it 5 pounds per acre of white clover seed after the grass is sown, and would run a smoothing harrow over lightly. If you are in the South, from North Carolina southward, we would; in place of poa compressa, use the same amount of Bermuda grass seed. Always give your full address in writing a letter.

Two-Horse Plant Setting Machine.—A California and a North Carolina subscriber are each looking for a two-horse plant setting machine. The manufacturers of such machines should advertise in the P. F., as we have inquiries about them every season, and do not know where to direct people.

Cow Peas in N. Y.—C. P. B., Schuylerville, N. Y.—"Would cow peas plowed under be of any good as a fertilizer for a crop of winter rye? What kind would be best?" Saratoga county is far north for any pea, and probably too far north for them to ripen seed. Hence the best you can use will be a heavy vining sort like the Early Black or the Wonderful. They will make growth enough if sown the first week in June to give you, on your sandy land, a heavy growth to turn under in the fall for rye, and we believe that they will pay you for this purpose. Wonderful will make heaviest growth.

Peas and Fruit Trees.—L. Boroughs, Barhamsville, Va.—"I wish to grow soy beans, Black peas and Black Eye peas. Part of the soy beans and Black peas for hay, part for seed, and the Black Eye for market. How much fertilizer, and what kind for each? Is it best to broadcast or put in rows? If in rows, how far apart should the rows be? Should the fertilizer be put in furrow or broadcast? How much seed per acre in rows and how much broadcast? I want to set an orchard of peaches, apples and pears and a few cherry trees. What varieties will be best here in tidewater, 40 miles east of Richmond? There are few improved cherries here. Some say that Gov. Wood and Black Tartarian will do well." We were under the impression that we had answered every possible question about cow peas a hundred times over, but it seems that there is still information wanted. In planting peas for seed or for gathering for market we would always put them in rows like beans, and cultivate them. Make the rows three feet apart if the land is in good heart. On thin land they will do two and a half feet apart. In drills use between a peck and half bushel per acre. For hay always sow broadcast and use one bushel of seed per acre. As a fertilizer mix 1,800 lbs. of acid phosphate and 200 lbs. of muriate of potash to make a ton, and apply 300 pounds per acre broadcast and harrow it in before planting. Any variety of peaches will do well with you, but we would not, in your section, bother about the extra early ones like the Sneed, except for family use, for by the time you would get them, the Georgia folks will be sending in better fruit and the Sneed will not sell. For the earliest plant the Greensboro; then plant Early York, Mountain Rose, Reeves Favorite, Oldmixon, Free, Lady Ingold, Elberta, Heath, Bilyeau's October and Chair's Choice. For apples plant Winesap, Virginia Beauty, Fall Cheese, York Imperial and Golden Russet. The large sweet cherries are very uncertain in your climate, and also in ours. Gov. Wood sometimes ripens a few here, but as a rule only the sour cherries are of any use here, and your climate is very similar. Far family use we would try Gov. Wood. Elton, Luelling, Black Tartarian, and for cooking the Early Richmond and Early Purple.

Wheat and Corn Rotation. — John Breman, Nowhere.—"My neighbors sow wheat in our bottom lands on corn ground, keep it in wheat two or three years, sowing clover with the last crop, cut one crop and then plant the land in corn and make 60 bushels per acre, planted immediately after the clover is cut. Please tell me if this is the best way." You do not tell us where you live, and of course the postmark on your card is too indistinct to read. We assume that you are pretty well South or you could not grow corn the same season after cutting red clover. On moist bottom land this practice can be worked indefinitely, but we would prefer to get a crop of pea vine hay off the land after each crop of wheat till the last and then sow clover. Sixty bushels of corn is a fair crop, but on land of that nature a larger crop could be grown. But a crop of clover hay and 60 bushels of corn in one season is pretty good, and we have done the same thing year after year in bottom lands in the Virginia Piedmont. So long as your neighbors get these results we are not prepared to tell them to change their methods.

Sweet Potatoes. — P. S. Carpenter, Long Shoals, N. C.—"What fertilizer should I use for sweet potatoes? I have ashes, stable manure and guano. Would you broadcast it or put in the furrow, and how far apart to make the ridges, and how far between the plants in the rows? I want to sow peas on wheat stubble land and prepare for wheat this fall. I sow the Whippoorwill pea. How soon would you sow them, the object being to improve the land? I am greatly delighted with your paper." Your gray soil, if loose and light, is a very good soil for the sweet potatoes. Do not use the stable manure on them, as it tends to too much vine growth. If you have plenty of hard-wood ashes you can get nothing better for the potatoes. Run out the furrows after having put the land in good order, three feet apart and apply a good dressing of the ashes in the furrow. Lap two furrows over the first ones and chop the tops off smoothly and set the plants 15 inches apart in the row. Cultivate rapidly and cleanly and finish with a cotton sweep. Prepare the stubble by a good plowing and harrowing and drill the peas with a wheat drill at rate of one bushel per acre, about the first of June, as we understand the stubble is last year's stubble. If the wheat is there now you must, of course sow after the wheat is off, and it may be later with you than the first of June. You will make a heavier growth with the Wonderful or Unknown pea than with the Whippoorwill. Cut the peas for hay and plow only the stubble for wheat, for the crop is too valuable as feed to turn under, and the turning under would make less wheat than the stubble, for it would be hard to get the land properly compacted for wheat. The cutaway harrow should be used thoroughly on the stubble till the surface is perfectly fine before sowing the wheat.

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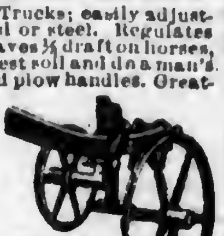

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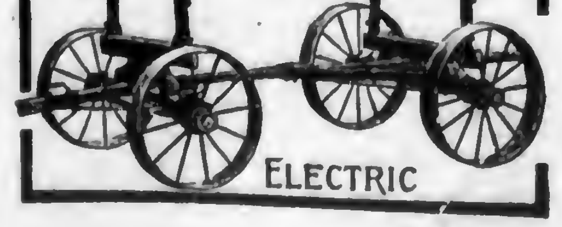

Early Corn.—R. P. Isley, Burlington, N. C.—"Where can I buy 3-pound tins nearest? Where can I buy seed corn to plant after harvest to mature before frost? I want a white corn, and it will have to mature in three months." Baltimore is the nearest place for you to get tin cans, and the whole manufacture is in the hands of a combination. Write to any tin can maker in Baltimore. Any upland corn will mature with you after harvest. We expect to plant a piece of corn after the wheat is cut and the stubble well manured, and will use our own seed. Probably the best corn for you will be Hickory King. This can be planted in rows about three and a half feet apart and a foot in the row. You can get the seed at $1.75 per bushel from Wm. Henry Maule, Philadelphia.

What to do for Hay. — W. S. Rinehart, Union Bridge, Md.—"If you had a field where clover has completely died out, and no other to mow, what would you do for hay? Is there an early pea that could be made into hay in time to sow crimson clover to be plowed under for corn the next spring? The Black cow pea grows so rank here and with such long vines that it is almost impossible to handle it for hay. How would rye and crimson clover do sown together as a soil improver? We had the Whippoorwill pea last season. It made very little vine and few pods. The season was almost continual drought." We would do just as we are intending to do. Mow some wheat for hay in the milk and at once prepare the land for peas, also to be made into hay. And as to the field where the clover is dead, we would plow it at once and prepare it for peas. The early peas will none of them make a very heavy crop of hay. In a fair season the Whippoorwill will make a fair yield and generally a good crop of seed. The Clay pea is a good hay maker, but makes vines about as heavy as the Black. The Wonderful will make heavier vines than any if let make its full growth, but its early growth is very upright, and though the vines are heavy, they are more easily harvested than the Black. It will hardly mature with you unless you get Delaware grown seed, but it will make the heaviest crop of hay of any, but a little slower to cure when green. You could get any of the peas off in time to sow the clover, for you can get a good stand of the clover sown as late as the first of September. We have found that later sowing here is best, and that often a sowing in October will beat that sown in September when the weather is apt to be too hot and dry. Wm. Henry Maule, of Philadelphia, may probably get you Delaware seed of the Wonderful, and if you can get this we would try the Wonderful. Sow it the last of May if the weather is settled and warm, and you can cut them in August. But if short of feed we would not hesitate to cut some wheat hay, for you will find it excellent feed.

Tobacco in Pa.—Christian Brubaker, Lititz, Pa.—"My farm contains about 86 acres and the land is somewhat rolling. It is a limestone valley with a few spots of flint. Why does not tobacco grow as well as formerly on the hollows? Can you tell what is lacking in the soil? The farm received a coat of lime about five years ago, and I always give the tobacco patch a good coat of manure." It is rather in the nature of guesswork to say what is the matter with the soil. In the first place, the liming may have had something to do with it, as some grades of tobacco are injured by liming. Then we understand from what you say that you use only stable or barnyard manure on the tobacco. The manurial needs of tobacco are mainly for nitrogen and potash, and it needs less phosphoric acid than most crops. In the stable manure you get nitrogen largely and a smaller percentage of the mineral plant food than tobacco needs. We would suggest that you use a commercial fertilizer and leave off the manure on the tobacco. Mix, in the following proportions, to make a ton, 900 pounds of acid phosphate, 600 pounds of dried blood, 100 pounds of nitrate of soda and 400 pounds of high grade sulphate of potash, and apply 500 pounds to the acre, and we think that you will get a good grade of tobacco. But be sure to get pure dried blood and not blood and bone, and also get the high grade sulphate of potash and not the muriate or the low grade sulphate.

Farming in Tidewater Va. — D. A. Baker, Grassfield, Va. — "Last year I plowed some broom sedge sod that had not been broken in 25 years. There was a great deal of brush on it, which I cut and piled and burned. Where the brush was piled the corn made a big growth and eared well, while on the rest of the field it grew but five feet tall and failed to ear much. Land is a stiff black loam with a heavy clay subsoil. Can you tell me what the land needs to make a better growth of forage and ears? I would like to buy what is needed and mix it myself, and would like to know what I will have to pay for the materials. Will nitrate of soda used as a top dressing give good results here? My land was all covered with broom sedge and I want to get crimson clover on it as fast as possible. Will I need fertilizer to make corn on the crimson clover sod? What can I do to increase the growth of the crimson clover the first year? I have broken a piece of broom sedge this winter and broadcasted manure on top. Will this grow peanuts and sweet potatoes? I want them for my hogs. Would some other crop be better for hog feed? I have 65 acres fenced in of brush, broom sedge and reeds, and about 20 head of cattle and 35 goats on it. The goats are killing out the brush, as they and the cattle were on it last summer. About half of it is so that I can take six horses and my 14-20 inch disk and cut it all to pieces. Do you think that by doing this I can get a stand of crimson clover and white clover? White clover is coming in on some spots. Would it help to sow seed on top of the ground this fall? Would liming help to kill the broom sedge? I want to get it in white clover as soon as possible. Would stock hogs do well on such a pasture?" From the way you ask questions it is evident that you are from the North and new in the broom sedge country. Your land is all right if managed properly. But it is, like a great deal of the land in the Dismal Swamp country, sour. You burned brush on it and the result on these spots was a good growth of corn. The burning tended to release some plant food in the soil and added some lime and potash, which tended to sweeten the spots. If your land is well drained, the first thing it needs is lime. Lime will sweeten the sour soil and will promote the decay and nitrification of the organic matter which you turned under in the broom sedge sod. Fully as much can be done with that soil by good plowing and liming and thorough culture as by fertilizers. Still there is a great deal that fertilizers will do to help you in getting the land started in improvement. Lime will help in getting a stand of clover, and it is probable that the first sowing of crimson clover will not be a great success without it until you get the soil infected with the microbes that live on the clover. If you can get some soil from a field where the clover has been a success and scatter it over the land thinly it will aid in getting the growth of clover. On the land where you have plowed the broom sedge the past winter and have spread manure, you cannot grow peanuts unless you lime it. They will grow but the crop will be mainly "pops," or hollow shells. The sweet potatoes will do better without lime, as they rather prefer an acid soil. If you will disk up the pasture land and give it a coat of lime you can scatter white clover seed over it in the fall with a good chance for success. Hard-wood ashes, if to be had, would be still better in bringing in the white clover. If you can get a good stand of crimson clover after liming, it will then make corn on the turned under clover sod. Then sow some cow peas for your hogs. There is no better crop to hog down than peas and they will keep the hogs fattening fast till time to harden off the fat with corn in the fall. Cow peas aided in growth by acid phosphate and potash will help you get that land into a productive condition faster than anything else. But do not lime the land where you are going to sow the peas, but lime after the peas have been grown, for they do better on an acid soil. Use an application of 250 pounds of acid phosphate and 50 pounds of muriate of potash per acre on the peas, and then let the peas do the rest. You can get more feed for the cattle from cow peas than anything else we know of. Sow the Wonderful or Unknown pea. Adopt a good short rotation and bank on the peas and you will be all right. Go to the Old Dominion Guano Co., of Norfolk, for prices on fertilizers, or to any dealer in that city, for all sell at the trust prices. Then write to the P. F. one question at a time and we will do all we can to help you.

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Farming in Idaho. — D. P. Dayton, McArthur, Ida.—"I took up a quarter section of land in Idaho a year ago. The forest growth of cedar had been destroyed years ago by forest fire, and only the blackened stumps remain. The soil is mellow and fine, but no grass has started on it since the fire eight years ago, and it is covered with moss. I am told the land is sour and will not raise anything until worked two years or heavily manured. Cedar land is considered to be rich, and I find here cedar stumps five feet in diameter. Can you say why grass and young trees have never started, except few willows?" The fact that the soil is covered with moss shows that it is sour and probably needs drainage. As the growth was largely tamarack it evidently needs drainage. The best thing for that land will be to drain it and then give it a coat of lime. The grass and trees have failed to start largely because there was no seed in the soil, the burning that destroyed the forest was enough to kill every seed in the soil. We have seen a cedar forest burnt off in the Western mountains and the soil ankle deep in ashes. Such a heat would certainly destroy any seed that may have been in the ground. The willows sprouted in wet spots from the roots that escaped the burning. Lime is the thing to sweeten the soil, but drainage of surplus water may be needed.

Billion Dollar Grass.—J. D. Cooke, Jr., Cornersville, Tenn.—"Please inform me through the P. F. as to the merits of the Billion Dollar grass and speltz." The so-called Billion Dollar grass is a variety of Panicum Crus Galli or the common barnyard grass. If it is put on fertile and moist land it will make a heavy crop of rather coarse hay, which makes fairly good fodder. Speltz is a species of the wheat family which retains the husk like oats. It is about as good as oats for feed, but is better suited to the arid West than to Tennessee.

Spraying for the Plum Rot.—L. A. Gibbs, Fredonia, N. Y.—"Is spraying for the plum rot successful? If so, with what mixture?" Spraying for any fungus disease must be used as a preventive. No treatment will avail after the rot gets there. The rot in the plum and peach are identical in their character, and early and persistent spraying is needed to stop it. The time to spray first is just before the buds swell in the spring, using at this time a simple solution of copper sulphate one pound to 25 gallons of water. As the buds swell, spray again with the Bordeaux mixture, and again when the fruit has set. When the fruit is well grown spray with ammoniacal carbonate of copper, one ounce of the copper carbonate to 12 gallons of water. Sometimes it may be well to repeat this but generally not. Often one application of the Bordeaux mixture will suffice if followed by the carbonate of copper solution.

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The Care of Breeding Animals.

PROF. A. M. SOULE.

Comparatively little attention is given to this very important subject, because it is not deemed necessary by the average farmer. Somehow or other the breeding animals, no matter what the class of stock, are expected to get along and rustle for themselves. They may even be expected to do hard work every day. In fact, as a rule, they are and especially is this true in the case of horses and cows. Very few people seem to consider the extra strain on the female of carrying young as a matter worthy of consideration, though the proper nutrition of the dam, as will be apparent later, has a very marked influence on the development of the foetus and its final growth and vigor. Do not overlook the fact that a certain amount of exercise and work is necessary for the female, as it aids digestion and tones up and keeps the whole system in good condition, which means the development of a strong, healthy foetus. Such breeding animals as cannot be worked should, therefore, be given the run of large, shaded pastures where they will be obliged to move around in order to secure the necessary supplies of food and thus obtain that gentle, stimulating exercise which is so essential for the health of the mother and young as well. The food provided in the pasture, besides being succulent, is nutritious and exerts a desirable physiological action on the system. When pasturage is not available succulent food, such as silage, is very desirable for breeding animals, more so, of course, for cows than horses, as it helps to keep the system relaxed and does not produce an undue amount of fat. Milk fever, or what is generally known now as parturient apoplexy, is one of the most dangerous diseases with which the breeder has to contend, and it is more likely to occur when the breeding animals are fed on dry roughness and rich meals, such as corn meal and cottonseed meal. These feeds rather tend to produce a fevered condition of the system; the dry roughness has rather a binding effect and the meals mentioned produce too much fat, and where they are fed without discretion the trouble mentioned is most likely to occur. While the disease can and has been successfully treated by the Schmitt method, in the experience of the writer (which has been considerable) it leaves the cow's nervous system in a very bad condition. In fact, in nearly all instances within the knowledge of the writer it has permanently injured the milk flow and the cows recovering from the treatment have never been anything like as valuable for dairy purposes afterwards. As this trouble can be obviated in a very large measure by using proper care in feeding the cow, the importance of giving more attention to this matter becomes apparent. Even when succulent foods are available only a small amount of grain should be fed immediately before parturition, and this had best consist of wheat bran. Previous to this time a limited amount of cottonseed meal and wheat bran, and even a small amount of corn meal can be fed with impunity to advantage. While the bran may be used in the ordinary condition in warm weather, in cold weather it is frequently an advantage to use it in the form of a mash, and it is also well to give two or three liberal doses of salts. Should the udder of the cow become very large before calving, it should be carefully milked out and kneaded and worked with every day, so as to prevent inflammation and caking of the udder. Where these precautions are observed there is not much danger of parturient apoplexy.

With regard to the grains best suited to the nourishment of the female while carrying the young, it is only necessary to say that these should, for the most part, be rich in protein. These foods help to build muscle and keep the nervous system in a vigorous condition, and hence the foetus is more likely to be well nourished, and be strong and healthy. Carbohydrate foods, such as corn meal and other starchy products, should be avoided for reasons in opposition to those already advanced. Foods thus have a very important influence, not only on the health of the dam, but on the development of a vigorous offspring, and the nourishment of the female should receive more consideration at the hands of the average breeder. It would not be a difficult matter to provide an abundance of the most useful foods if more care and forethought were given to the rotation practiced on the farm, and the benefits accruing to the breeder are such that he can well afford to adapt his rotation to the best needs of his stock. The importance of nourishment to the dam so as to produce a strong, vigorous foetus is not generally recognized. While the size of the foetus is probably controlled by the dam, its after development depends largely on its proper nourishment before birth, and that the dam should be liberally fed is clearly apparent, for in most instances she is not only expected to be a productive factor, either in the field or at the milk pail, but to provide plenty of nourishment for her young as well. Where an animal is expected to do double duty the food supplies must be liberal or else one or both of these duties will be inadequately performed with disastrous results in the case of the young. For example, if a mare is overworked so much of the energy of the mother is used up that the foetus necessarily suffers, and so instead of growing and developing uniformly and being strong and vigorous in every respect, it is permanently stunted and injured and this will be evident throughout its whole life if one is a close enough student of animal conditions to appreciate the influences responsible for certain effects.

Shocks to the nervous system of the mother incident from beating or overexertion or insufficient supplies of food will effect the foetus directly because it is nourished through the nerve centres and the circulation and these are the first to feel the effects of abuse. If the digestion of the mother is not good, or if the food supplies are inadequate, the flow of blood to the foetus will be insufficient and hence the food supplies assimilated therefrom for its growth and development will not be sufficient for its needs and hence a permanent injury is done to the young. These matters are worthy of the most earnest consideration at the hands of the breeder, for it frequently happens that through his own neglect or indifference he is the direct cause of the production of many a scrub in his own herd and many an animal of insufficient vigor and quality. This matter has received so much study and attention at the hands of experts that the facts here set forth are now well established and point out clearly the importance of more careful consideration of the needs and requirements of breeding animals in order that the young may not receive an injury which, though not apparent to the eye, is as certain to have its effects as direct maltreatment to the grown animal.

The development of a remarkable animal depends more on its proper nourishment before birth than most people would suspect, and the amount of damage done through neglect of breeding animals can never be properly estimated because the effects are so well hidden. Enough is known about the breeding and development of many noted animals in the live stock world to show that they were not the result of accident, but that through the accumulation and development of hereditary characteristics through a long line of ancestors there finally is brought together all the qualities necessary to produce an animal of remarkable performance. While it may be said that this is entirely due to ancestry, more of it is undoubtedly due to the development of a strong, vigorous foetus through the proper nourishment and care of the dam than one would naturally suspect, and as a further proof of this, one has only to examine the offspring of many females subjected to various forms of maltreatment. Should the dam be sick or have a cold or indigestion, or be nervous or irritated from any known outside or internal cause, the effects will almost certainly be apparent on the foetus, and these well-known facts which are directly apparent to any student of animal life lend color and support to the importance of giving greater attention to the proper nourishment of the foetus as set forth in the foregoing statements.

Tennessee Experiment Station.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Loss of Milk Teeth.—1. I have a heifer calf two days old, which by some accident had three of its lower jaw teeth knocked out on the left side. Would like to know if they will grow back again? 2. Also have a fine horse. He has something wrong with his nose on the right side; is puffed up and has been that way for about a year and a half; has a very foul discharge out of the side at times and at one time I thought he would bleed to death. A. W. SUTHERLAND.

St. Joseph, Mo.

1. The teeth lost are milk, or temporary teeth, and will be replaced by permanent teeth later on. 2. There is doubtless a diseased molar tooth in upper jaw which should be removed by trephining, as the sinuses of the head are also involved and filled with pus and a granulating flesh from which proceeds the discharge and foul odor. As such growths are sometimes seen in glanders care should be taken to have a veterinarian make an examination. The bulging of the bones of the face under eye is also seen in nasal gleet and necessitates an operation such as we have indicated. By trephining we mean cutting out a circular gun-wad-like piece of bone from the face just over root of tooth and through this punching out the tooth into the mouth. The same orifice is used for the introduction of antiseptic solutions by means of a syringe for the purpose of cleansing sinus, nostril, etc.

Quittor. — About two months ago mare was calked on hind foot, just at edge of horn; about 15 days ago it broke open again. She became very lame, but worked her for three days. At first there was a thin discharge; later it was thick and about a teacupful in 12 hours; now about half that. She has been in great pain, holding up foot most of the time. H. C. FINEHOUT.

Martinsburg, N. Y.

It is a very common ocurrence for dirt, hair or horn to be forced into such wounds at time of injury, and unless such foreign matters are removed they will afterwards cause the wound to suppurate and break open. At this stage a quittor has usually formed, which is difficult to heal, as a pipe will be found leading down into tissues of foot and often involving the lateral cartilage. Wound must be scraped and all foreign matters removed. This is best done by means of a small instrument called a curette. All loose and underrun horn must also be removed with sharp knife. This done, syringe out the wound with antiseptic solution, then inject a little of a solution of two drachms of corrosive sublimate and one drachm of hydrochloric acid in an ounce of water. Cover wound with a bit of cotton batting saturated in same solution and bind with bandage. Remove in twelve hours and poultice night and morning for a week with hot flaxseed meal containing carbolic acid. At end of week inject again and after clipping hair from coronet blister well with cerate of cantharides. If the operation is thorough this treatment will cure the case unless cartilage has become diseased, in which case diseased part of cartilage will have to be removed by operation.

Abscess.—Some time ago my farmer had a young sow commence swelling under the throat; it kept on very slowly until it became almost twice the natural size. After a time it broke, but there is still considerable swelling. The sow seemed to be well in every other particular. Ate well and seemed lively. Within a week I have noticed a small shoat about 11 or 12 weeks old, that was kept in an adjoining compartment, to be swelling in the same manner. Like the sow, it seems well in every other way and is growing finely. What do you think is the trouble, and should the afflicted ones be separated from the well ones? JESSE BROSIUS.

Christiana, Pa.

Such abscesses are common in all young animals when out of condition, and they may also have abscesses form in the submaxilary space when attacked with strangles, as is seen in colts and also in calves. It would be well to separate affected from unaffected animals. Good nursing is the main thing in treatment. Keep hogs comfortable and feed on soft, nutritious foods. Bathe swollen parts with hot water and then rub well with a mixture of equal parts turpentine, aqua ammonia and raw linseed oil. When soft open freely with a sharp knife exactly in centre of mass under jaws. Syringe cavity with warm solution of carbolic acid (2 per cent.) once daily until pus ceases to issue. Internally give while abscess is forming one drachm of hyposulphite of soda twice daily and after abscess has opened follow with ten drops of tincture of iron in drinking water or a little slop three times daily. Keeping swine in clean and disinfected, whitewashed pens contributes to their health and tends to prevent such diseases as the above.

Garget.—1. I have a cow that has touches of garget now and then, sometimes in one teat, sometimes in another, rarely continuing in any one teat more than two milkings at a time. 2. She is troubled with small blisters on her teats at times, may be cow pox. When these dry up they make the teats quite sore and then she is ugly to milk. JAMES G. KEELING.

Montfort, O.

When a cow has these recurring attacks of garget which disappear without treatment we always advise having a tuberculin test made, as tuberculosis is to be feared. At the same time, as she has been troubled with a breaking out upon the teats the garget may be due to that irritation, which is not cow pox, as that disease rarely attacks more than once. We suspect that the irritation is a form of chapping from milking with wet hands, and would advise dry milking. When she has an attack of either garget or the eruption referred to give her a pound dose of epsom salts in two quarts of warm water and follow with an ounce of hyposulphite of soda three times daily in drinking water or soft food. At same time cut down her grain ration and see that she has plenty of exercise. When teats become sore wash them with a solution of one ounce of hyposulphite of soda in a pint of water once daily and when dry smear with a small quantity of glycerite of tannin. See that she is kept when in doors in clean, well ventilated stable.

Balky Mare.—Bay mare 8 years old is balky to wagon. 2. What is best to feed and how to feed a mare with foal and at time of dropping colt and after? Her colt scoured and died in 14 hours. Fed mare at night mixed feed of shucks, straw, with three-quarters gallon of shorts and bran with little salt. Morning and noon oats, corn and bran. Has been fed this all the time during the year. Mare did not work much all winter but had light exercise most every day, but not much of it. J. M. RAY.

Liberty, N. C.

1. We are unable to suggest a plan by which this bad habit could be overcome as you have doubtless tried all of the usual plans. Mares more often than horses tend to balk and especially when allowed to rest in stable for a few days while heavily fed on nutritious grain rations. This being the case it would be well to cut down her rations and increase exercise when she has no work to do. The more work she gets the better. 2. More exercise should have been given and in future would advise you to feed hay instead of shucks and cut out the corn during the last three months of pregnancy. Such foods as bran, oats and flaxseed meal are best for a pregnant mare and we like to add some succulent food, such as roots or silage, to keep the bowels properly regulated.

Difficult Urination.—One of my cows, a 6-year-old Holstein, is continually trying to make water, but seems to pass only a small quantity at a time—from a pint to a quart, perhaps. Aside from this she seems in normal condition, eating well and giving an average of 30 pounds per day since Nov. 1. She calved Oct. 15, and was served in January. Came in heat again April 9, and was then served. Her feed has been 1 bushel ensilage, cut up corn and all, 15 pounds either mixed hay or clover hay, 3 pounds of meal, 2½ pounds mixed feed, 1½ pounds cottonseed or gluten meal. Is there anything serious the matter, and is this ration all right? H. P. LIBBY.

Elliot, Me.

You are feeding the cow well and it may be that she is getting too much concentrated food or that some of the food, such as ensilage or hay, is mouldy. It would be best for the time being to stop feeding present meals and ensilage and substitute bran and flaxseed meal in the shape of a mash twice daily along with grass if you can supply it or sound mixed hay. Green grass alone would be likely to cure the trouble unless it is due to the presence of gravel in the bladder. If you find that change of food does not stop the too frequent attempts to pass urine then give her a pint of raw linseed oil twice a week, change to soft water if present drinking water is hard from presence of lime and three times daily give her half an ounce of sanmetto and half a drachm of fluid extract of belladonna leaves in flaxseed tea. Flaxseed tea is also good as a drink for cows thus affected.

Abortion.—We have a fine Jersey cow about 8 years old, which last year failed to come in calf. This year she dropped her calf at about five months. We believe she is at her prime and wish to give her good care. Overfeeding is thought to have been the cause of the trouble. How can we prevent a recurrence of this? JOHN EMMETT.

Lawrence, Kan.

You should have described feeding considered likely to have induced the trouble. As it is there is but one safe way to treat this cow and that is to consider her afflicted with contagious abortion and therefore isolate her and treat as follows: If abortion was recent flush out her vagina once daily for ten days with two gallons of milk-warm solution of chloride of zinc and at the end of that period wash her out every other day for a week, then twice a week for a couple of weeks. At the same time give her right along in soft feed, in water as a drench, or in water sprayed upon hay, half a drachm of carbolic acid twice daily until she has reached her eighth month of pregnancy. Do not breed her again before she has arrived at the time when she would have otherwise been bred had she not aborted, and not then if there is the slightest discharge from her vagina. When she is in calf again wash or sponge her external genitals, tail and inside of thighs once daily with the zinc solution and do the same with every pregnant cow that has been with her prior to time you isolated her after receiving this advice. If bull has served this cow since she aborted, his sheath should be flushed out once daily for ten days with the zinc solution and also after each service. If the cow in question has been with pregnant cows and she has had a discharge from her vagina each of the pregnant cows should have the external washings with zinc solution daily, as above advised, and also the carbolic acid treatment internally. This may seem like a lot of work, but if you have a number of cows and wish to protect them against abortion this is the only feasible way and it pays well to follow it. If at any time when pregnant the cow in question shows signs of impending abortion such as relaxed condition of vulva, or pelvic ligaments, restlessness, bawling, stepping up and down with hind feet, increased flow of milk or sudden discharge from vagina, place her in a quiet box stall and give her one ounce of laudanum and two ounces of fluid extract of black haw every two hours until quiet, then drop out the laudanum and go on with the black haw until vulva shrinks and the other symptoms disappear.

Lymphangitis.—Bay mare five years old. When two years old cut her right hind leg on a barbed wire, between the gambrel and hock joints. Sore healed up, but leg staid a little large. I bred her when four years old. When in foal the leg swelled up to one-half more than its natural size. She has been a little lame in it and each time it gets a little larger and is now large again. WESLEY KITCHEN.

Goodells, Mich.

We do not believe that the present condition is in any way associated with the original accident referred to, but that the trouble is lymphangitis (milk leg), due to surfeit and lack of exercise which affects the chain of lymphatics on inside of hind legs. The tendency to this disease would be hereditary, so that it would be best not to use her for breeding purposes, seeing that her dam was similarly affected. Lymphangitis is often called "Monday morning disease," as it comes on when horse is rested for Sunday, and at that time fed the usual amount of grain, the nutrients of which cannot be worked and sweated off. While the animal was all right on Saturday night and apparently so during Sunday, he is found on Monday morning with one or both hind legs swollen, hot and very painful on inside of thigh. There is high fever present and horse may sweat and pant. Appetite is lost from pain and leg continues to swell from above downwards. After three or four days pain and fever subside and the swelling drops to the hock and ankle joints. Successive attacks leave the leg enlarged or with a tendency to stock when animal is idle in barn, or even when standing over night. To prevent the disease hard working horses should always have a bran mash and very little grain of any sort when idle, or even when resting Sundays. If there is a tendency to the disease a teaspoonful of saltpetre may be mixed in the soft food twice daily during idleness, and some exercise should always be allowed. Mares such as yours should have a roomy box stall in barn and their food should be light and calculated to keep the bowels freely opened. A bandage should be applied after the animal comes in from work, and if leg still inclines to stock it may be wetted often with a solution of one ounce of sugar of lead in a quart of soft water or with a decoction of white oak bark. Internally give her a drachm each of dried sulphate of iron, saltpetre and ground gentian root twice daily for a couple of weeks. Avoid corn as a food and always cut down the oat ration when she has little work to do.

Pasturing Jack. — I have a jack that during the day has the run of a blue grass and clover pasture. Will the clover prevent him from being a sure foal getter? N. SAILS.

Mt. Grove, Mo.

The pasturing of jacks cannot in any way prove detrimental to breeding qualities provided other nutritious food is fed to keep muscles in firm condition. Were he to eat nothing but grass and get his bowels into open condition he might weaken and prove sluggish and impotent, but if you feed such other foods as oats, bran and dried blood meal he will be the better for the grass. In our opinon it would be best to turn him out for but a part of the day and let him have his grain rations and hay in a large yard where he can exercise freely. Some men claim that exercise is bad for jacks, as it tends to make them less sure. This we simply do not believe, as it is against all laws of nature and common sense. In above remarks we refer to grazing upon grass and red clover but would consider it dangerous to pasture hard bitten pasture in which there was sufficient white clover to produce salivation.

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$18.75 Chicago to Denver, Colorado Springs and Pueblo; $19.00 to Deadwood, Hot Springs, So. Dak., Casper, Wyo., and intermediate points, via Chicago & North-Western R'y. One-way second-class tickets on sale May 19, June 2 and 16, July 7 and 12, August 4 and 18, and September 1 and 15. Correspondingly low rates from all points East. Fast trains. Service unexcelled. For particulars apply to your nearest agent or address W. A. Cox, 601 Chestnut Street, Philadelphia, Pa.

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Improved Schmitt Treatment Complete. Can be administered after the cow becomes unconscious. No previous experience needed. Every owner of a good cow should have it on hand. "I recently had a very severe case of milk fever, but saved the cow with Hood Farm Milk Fever Cure. It is the first case we have ever been able to save. This cow became unconscious while calving. In seven hours after administering Hood Farm Milk Fever Cure she brightened up. The next morning she was on her feet and steadily improved until she was all right." C. L. BLAKELY, 343 Winthrop st., Medford, Mass., farmer for Gen. S. C. Lawrence.
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Caustic Balsam
A Safe Speedy and Positive Cure
The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish.
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is guaranteed to cure the most stubborn case of Harness or Collar Gall, Scratches, Grease Heel, Speed Crack, etc., while you work the horse. For sale at all dealers who are authorised to refund your money if it does not do just as we say. Sample sent for 10 cents. Write while you have it in mind.
BE SURE AND WORK THE HORSE.
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I put in one of them last year because the agent claimed it was "just as good" as a DE LAVAL machine and was $10.- cheaper. I have looked about and gotten some separator experience since then and I find now that I could have bought a DE LAVAL machine of greater actual capacity for less money in the first place, while I have lost money every day through the imperfect skimming of this machine, aside from hard running and trouble of all kinds from infernally poor construction.
I am going to have a DE LAVAL machine now if I have to "junk" this old one for scrap-iron. I know it will save its cost the first year of use and should be good for twenty years. I find all well-informed dairy farmers are using DE LAVAL machines and that there are over 400,000 of them.
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Costs Nothing If It Fails.
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I am a specialist in Rheumatism, and have treated more cases than any other physician, I think. For 16 years I made 2,000 experiments with different drugs, testing all known remedies while searching the world for something better. Nine years ago I found a costly chemical in Germany which, with my previous discoveries, gives me a certain cure.
I don't mean that it can turn bony joints into flesh again; but it can cure the disease at any stage, completely and forever. I have done it fully 100,000 times.
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I have no samples. Any mere sample that can affect chronic Rheumatism must be drugged to the verge of danger. I use no such drugs, and it is folly to take them. You must get the disease out of the blood.
My remedy does that even in the most difficult, obstinate cases. It has cured the oldest cases that I ever met. And in all my experience—in all my 2,000 tests—I never found another remedy that would cure one chronic case in ten.
Write me and I will send you the order. Try my remedy for a month, as it can't harm you anyway. If it fails it is free.
Address Dr Shoop, Box 577, Racine, Wis.
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O. I. C. SWINE As good as money will buy or scientific breeding produce, at prices that farmers can afford to pay. Pedigree furnished with every animal. Start right by ordering a bred sow or a pair of pigs.
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THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

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Pays for The Practical Farmer for ONE YEAR and a Due Bill good for SEEDS, PLANTS or BULBS to the amount of ONE DOLLAR selected from the catalogue of a leading seedsman. Making $2.00 good value (*especially at this season of the year*), for only $1.25.
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Talks on Timely Topics

Short Cuts.—I am frequently asked to give description of some home-made device to facilitate certain lines of work in the garden or on the farm. It may be a dibber, or a marker, or a weeder, or a special purpose cultivator, or even a forge with which to do some slight repairing on garden and farm tools and implements. In many cases, to find a reply, I can simply turn to the Short Cuts Columns of back issues of the P. F. I do not know whether No. 2 of Vol. 1 of the Practical Farmer's Library can yet be had or not. It's a pity if it can't, for it is just the thing to help out in many cases of inquiry. Anyone of our older readers who is in possession of that issue of the Library (April, 1899), and perhaps of others, like "Farm Helps" (October, 1900), "Practical Farm Experience" (October, 1899), etc., should take good care of these books and keep them for ready reference. [All of the numbers of the Library mentioned, are in print and can be obtained from The Farmer Co.—Ed.] Short Cuts issues, undoubtedly, give the greatest variety of subjects, and will answer hundreds of inquiries that may come up. A few days ago I had the following: "Please give description of a home-made fan for forge, or something that will answer the same purpose." It came from R. C. Buck, a reader in Texas. On page 353 of the number of the Practical Farmer's Library above mentioned, I find the following, here republished:

"Home-Made Forge.—Take fan off an old hand corn sheller, place in a frame with fan near ground. On this put an 18-inch band wheel on shaft, with crank on one end of shaft. Now, make a frame of 2x4 stuff, 2 feet square, waist high; put bottom in this 6 inches from top. In centre of this bottom have a 3-inch iron pipe, two inches above bottom, and four inches below. Have your tinner to connect end of pipe and end of fan with a tin pipe, and your fan is complete. Over end of pipe in box fit a piece of sheet iron with six ¼-inch holes; fill box with clay, hollowed out down to pipe, like a saucer. With a little smithing coal, you are now ready to do many odd jobs that will save many a dollar."

Lima Bean Enemies. — A reader in Alabama (P. Thorsen) a few days ago forwarded me a sample of lima beans partially eaten by a "white worm." The beans were all dried to powder when they came to hand, and the worms had disappeared, so that I cannot tell what kind of "worm" it was that had attacked the beans. I have had limas, that were stored for seed, come out so badly eaten up by the bean weevil, that they apparently all fell to pieces and were utterly unfit for seed. Usually, however, we have very little reason to complain of the ravages of insects on lima beans. We find it, indeed, a very easy job, to raise all the lima beans we want to use, or sell, without any effort whatever to protect them against depredators, except, possibly, the cut worm where that is plentiful. Even the bean weevil is not particularly formidable or destructive if we take proper precautions with the seed. The sovereign remedy for this enemy, as for its larger brother, the pea weevil, is exposure of the seed, soon after being gathered, to the fumes of bisulphide of carbon. When care is taken to keep a lighted lamp, match, or other open flame at a safe distance from the inflammable liquid, this drug is safe to use and sure in its effects. All seed peas and seed beans, in fact, should for safety's sake be treated for weevil before being stored for winter. Whether there is any other "white worm" besides the young bean weevil larva which eats lima beans, I cannot say. But if any reader finds an insect or worm, which he cannot identify, or have identified at home, a good plan is to have perfect samples, put up in such a way that they will keep in good condition for a few days, mailed to your own State Experiment Station, or to the Department in Washington, with letter giving full description of the insect, how it works on the respective crop or crops, etc., giving all possible details, not forgetting your own full address, so that you may receive a reply by mail.

Asparagus.—I have for a long time been wondering in how far the size of asparagus stalks is dependent on the variety, and in how far on soil and atmospheric conditions. I have seen stalks of Conover's Colossal that were nearly two inches in diameter—colossal in fact as well as in name. Among the leading varieties we have "Giant Argenteuil," "Barr's Mammoth," "Mammoth Columbian White," etc., all, with the exception of "Palmetto," carrying the suggestion of extraordinary size of stalks right in their very name. And Palmetto is also claimed to be a mammoth sort. Among my Columbian Mammoth White are a number of "rogues," plants giving red stalks instead of the pure white which is the distinguishing characteristic feature of the variety. I can see no difference in size under the same environment. A few days ago I dug a lot of one-year-old plants of all the varieties above mentioned. Thus far I have not noticed any difference of the plants in size which could be credited to the variety. My private opinion is that we have no variety which can be depended upon to give larger sized stalks than does any other variety. If we want mammoth stalks, we must surround our plants with conditions which favor mammoth growth, such as warm and extremely rich soil, and plenty of space to each plant. For home use, even where the family is large, fifty plants well managed will go a great ways, and as a bed once planted can be made to furnish full crops for nearly a lifetime, we can well afford to take extra pains in establishing the patch. Select a strip of good soil off on one side of the garden, say 100 feet long, more or less, and 4 or 5 feet wide. Dig a trench about two feet deep and at least a foot wide, throwing the clay subsoil, if there be such, off to one side. Then fill this trench nearly full with rich old compost, a mixture of old manure and sandy loam, or rotted sods, tramping it well down. On top of this compost set the asparagus plants (strong 1-year plants to be preferred), spreading the roots well, and covering lightly with sand, sandy loam, or muck, until the plants make some growth. Then, as the compost underneath begins to settle, thus getting the crowns of the plants gradually deeper below the general surface level, gradually fill in with loose soil or sand. In the fall cut the ripe growth and remove it from the patch to prevent the ripe seed from being shed on the ground and possibly from giving trouble in after years by making a lot of young plants all over the patch. Then apply another coat of good, fine manure, clear horse droppings being preferred; and leave until spring following. I would not look for more than a very few stalks to cut the second season, if any, but would prefer to let the whole strength of the plant go toward the development of a large root system, so that mammoth stalks in great abundance may be obtained the third season. During the cutting season I, and a good many others, prefer ridging the row of plants, so that the young stalks may be nicely blanched and easily gathered.

In variety trials of asparagus we may meet with the difficulty of obtaining true seeds of the varieties called for. When the Mammoth Columbian White was first introduced, I grew a lot of plants, and found that only a very small percentage of them failed to produce the pure white shoots which characterize the variety. There were a few "rogues," but only a few among them. The lot of Columbian White which I raised last year seems to be almost entirely spurious, only a small percentage of the plants showing white shoots. The bulk of the plants look just exactly like a lot of Colossal, and these like Giant Argenteuil, and at present I feel hardly sure of having any particular variety. If anyone among our readers thinks he has a variety or strain of asparagus that gives larger shoots than other of our standard sorts, I should gladly pay for some plants or seeds to make the test.

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Current Comments.

Green Fly on Melons and Violets.—I would like to know a remedy for the lice or small flies that attack the muskmelon vines around here and destroy them about the time, or before, the melons begin to ripen. These insects work on under side of leaves. J. M. Grabill.
Orient, O.

How should I treat violet plants to rid them of the aphis, before re-setting them? Any information on violet growing would be greatly appreciated. Is there any book on violet culture that would be of any help to me? J. N. Hauger.
Leesburg, Va.

Of the various remedies often suggested, I believe none are more promising than strong tobacco tea and kerosene emulsion. To make the tobacco tea steep tobacco stems in water to make a tea-colored liquid; and in making the kerosene emulsion, use due care to have the oil well emulsified so as to avoid injury to the leaves. As the aphides are found on the underside of the leaves, the spray has to be directed from below, and it should be done in a forcible spray or mist, from a nozzle with a shank bent at about right angles, so that the nozzle can be held underneath the leaves, with spray directed upwards. The free use of tobacco dust, while plants are yet small, will in a measure act as a preventive. To rid violet plants of green fly, I would dip them in the tobacco tea, and then reset them. Among books on violets which might aid our friend, we have "Commercial Violet Culture," by B. T. Galloway, price $1.50, and "How to Make Money Growing Violets," by George Saltford, price 25 cents.

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A Good Buggy to Buy.—Perhaps you know the Split Hickory line of vehicles. If you have ever owned a Split Hickory buggy, you know how good and strong and handsome they are. The Ohio Carriage Mfg. Co., Box 37, Cincinnati, O., has been making a specialty of these buggies for many years, and turns out many thousands yearly in its large plant, all highest grade, no seconds, no pick up stuff, and offers them exclusively to the user direct at a great saving in price over dealers' and mail order house prices. As will be seen by referring to our advertising columns, a Split Hickory buggy can now be bought direct from the makers at $47.50, a regular $75.00 buggy, and the purchaser may take 30 days after receiving the buggy to decide whether it is what he wants or not. It not suited, the buggy may be returned and the money paid for it will be returned without grumbling. A full description of the newest style Split Hickory buggy will be sent our readers on request. A partial description appears in the Ohio Carriage Mfg. Co.'s advertisement elsewhere in this issue. Mention the P. F. when writing this firm.

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Maule's Quick-Growing Seeds, planted in May, produce as good results as others sown in hot bed a month earlier. North, South, East or West they are pronounced the best and surest of all. If you plant a garden I want your trade.
Send for my Catalogue
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Wm. Henry Maule, 1711 Filbert Street, Philadelphia, Pa.
The Six Earliest and Best Vegetables. New Davis Kidney Wax Beans, First of All Sweet Corn, Maule's First Early Cabbage, Extra Early Yellow Cracker Onion, Harris' Earliest Watermelon, New Lightning Scarlet Radish. One packet of each, postpaid, for only 25 cents, if you mention this paper; also 5 packets of Sweet Peas 10c.; 6 packets Beautiful Annuals 15c. The entire 17 packets, postpaid, for 50c.

Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Supports for Vines.

It is a good rule in gardening to give plants what they require as far as possible, otherwise much of their energy is spent adapting themselves to conditions different from what is natural to them. The growth of vines is in mind particularly. If strong, healthy growth is desired there must be proper supports for them to cling to. The Virginia creeper, Wistaria and honeysuckle will do for illustration. The desire of these vines is to make a certain lengthy growth, which they will do if given something they can cling to, and which they will not do otherwise. The Wistaria when supported will make shoots of enormous length in a season, but set it out to form a shrub growth, as is often done, and its shoots will be but a few feet in length. The explanation given is that when unsupported the vine expends the greater part of its energies seeking something to cling to. When this something is readily found the energy is expended in making growth. Without supports the growth is stunted. This is the reason vines treated as shrubs flower earlier than others of the same age given their freedom as vines. The trumpet vine and the Wistaria are often planted alongside short stakes, to make bushes of them. In this form they flower much earlier than the others, the flowering stage being reached in a very few years. Though for flowering purposes the stunted forms are often desirable, the healthiest vine is the one allowed to grow in a natural way. Many fruit growers permit their raspberry canes to grow as they will through the season, believing canes are healthier than when cut off during growth. The cutting off is not done till all growth is over for the season. In nurseries young trees are treated in the same way.

APPLE TREES That will grow. Varieties and stock all of the best. Catalog Free.
Harrison Nurseries, Box 30, Berlin, Md.

IMPROVED KEMP MANURE SPREADER
Spreads manure better than it can possibly be done by hand.
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Hay and Straw Poultry, eggs, hogs, calves, beans, fruits and all produce sold on consignment. Prompt cash returns. Established 59 yrs.
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Planet Jr. catalogue is free for the asking and tells all about the best line of seed drills, wheel hoes and 1 and 2-horse cultivators on market. Send for it. S. L. Allen & Co., Box T711, Philadelphia.

STARK TREES best by Test—78 Years LARGEST Nursery. FRUIT BOOK free. We PAY CASH WANT MORE SALESMEN Weekly
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How to Make the Garden Pay
By T. GREINER
Mr. Greiner has the reputation of being the best and most practical writer on Garden Topics in this country. In "How to Make the Garden Pay" he has concentrated years of practical experience, combined with a thorough theoretical knowledge. It contains all that is known about gardening from A to Z.
We will send a copy of "How to Make the Garden Pay" and The Practical Farmer for one year for $2, the price of the book alone.
The Farmer Co. Market and 18th sts. PHILADELPHIA

Leaf Blight.

So much has been written on the subject of spraying, that it seems like needless repetition to broach the subject again. But it is such an interesting matter, as every day brings proof of, that there is really no more important one worthy the fruit grower's attention. The subject came right home to me in the month of August last, in a case of pear blight in my own garden. A pear tree near the kitchen door, a Tyson in great part, though bearing Seckel shoots from grafts on it, showed signs of leaf blight, the leaves turning a yellowish color and falling off. I at once procured some Bordeaux mixture and took it home, together with a small hand syringe, determined to spray it, even at the risk of having to throw the fruit away, for it was just ripening a good crop. I met opposition, however. Mrs. Meehan protested that the butcher boy, the milk boy, the grocer's boy, the ice boy and itinerant peddlers who come to the door, were all accustomed to pick up the fallen pears, and she would not have on her hands the death of any of these useful persons by eating the poisoned pears. Well, though I knew the poison on the pears they would eat would be insufficient to harm them, I concluded to let her have peace of mind, especially as the better part of the leaves were already off or about to fall. What I have concluded to do is to spray the trees in a lively way as soon as the leaves are fairly expanded. This will suffice, though I may give a second spraying later, after the fruit has attained half its growth. As a matter of fact, so far as the use of the leaves goes, there would be but little advantage to the tree in preserving them after early September. Their work is really over for the season. Spraying would have killed out the fungus and have been a help in that way.

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Horticultural Queries.

Various Queries.—Can you give me the true name of a perennial plant known by the common name of fire ball? Also please give me the name and tell me where I can obtain the seed of a vine which we used to call pomegranate. It is an annual. Please tell me a good yellow rose for our part of Kansas. I have the old common kind, but want a larger kind. Mary L. Smutz.
Linn, Kan.

It would be a pleasure could I help you, but the names are entirely unknown to me. In almost every State flowers have different common names. We have here a fire bush, but that is a shrub, Pyrus Japonica. If you could send me a spray of what you mean I think I could name it for you. Our climate will not permit of our growing the tea and noisette roses, so we are without a good everblooming yellow rose. If you are more favored you might try any of the following list, all yellow: Solfaterre, Marechal Neil, Pearl des Jardins, Celine Forestier and W. A. Richardson.

Apples for Name.—I send you by mail two apples, classed thus: The larger, No. 1, the smaller No. 2; please tell me the correct names for them. O. W. Anthony.
Georgetown, N. M.

Making use of my friend G. B. Brackett, Pomologist of the U. S. Dept. of Agriculture, I sent your two apples to him for identification, and this is what he says in reference to them:

"I am just in receipt of yours of the 28th instant and under separate cover, one specimen each of two varieties of apples from your correspondent, C. W. Anthony, of Georgetown, N. M. These specimens, as I understand, are for identification. Upon examination I find the larger specimen, No. 1, is Yellow Newtown. It is an old variety that is grown quite extensively for export purposes. The specimens received are not of the high quality of the variety as grown in some sections, but otherwise are typical of the variety. The smaller specimen is Huntsman, a variety grown extensively in the Western States. It is used considerably as a filler in planting new orchards and comes into bearing quite early. Both varieties are valuable for market purposes."

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Horticultural Notes.

Native Plums.—There is a decided tendency, especially in the West, to stick to the improved native plums, rather than to the European or the Japanese sorts.

Orchards in Grass. — In the Middle States, where the old orchards are altogether in sod, the trees are invariably headed rather high. It is customary for cattle to graze in them, and, though not a great deal of herbage is under the trees, there is some, and at any rate there is shade for the cattle.

Neglected Fruit Trees. — Neglected apple and other fruit trees become crowded with inside branches, which are of no use, but a hindrance to the trees. These inside limbs should be cut out, leaving only those that the sun and air can reach in some degree. Paint all scars made by the cutting away of limbs.

Early Apples. — Four favorite early apples are Early Harvest, Sweet Bough, Red Astrachan and Williams' Favorite. The Red Astrachan, as well as Yellow Transparent and Tetofsky, two other early sorts, are of Russian origin, and are adapted to cold climates as well as to milder ones.

Not the Same.—Stump the World peach is often confounded with Oldmixon, but it is distinct, though somewhat like it. Oldmixon is a large, pale yellowish white, red cheeked in the sun, and ripens in Pennsylvania in mid-September. Stump the World ripens a little later than Oldmixon.

Hardy Roses.—Many more roses than are thought of could be added to the list of hardy sorts. Very many of the everblooming teas and similar kinds simply require a few inches near the ground protected, from which new shoots will arise and bear an abundance of flowers.

Setting Ferns.—Ferns from woods, set along the shady side of buildings, are well suited, and their beautiful foliage gives much pleasure. Many of the species are evergreen and a few of these should be placed among the rest.

Spiraea Bumalda is an uncommonly pretty summer flowering shrub, of a dwarf, compact nature. The rosy pink flowers are in flat heads. If the old flowers are cut away as soon as they fade a new crop comes later. In this way blooms are had until frost.

POULTRY.

This department is under the editorial charge of A. F. Hunter. All letters, inquiries and requests should be addressed to him at the Practical Farmer office, P. O. Box 1317, Philadelphia.

Poultry Queries.

Hawks.—A Puzzling Question.—F. C. C., Sandy Creek, Maine, writes: "If there are any successful methods of fighting hawks, please give particulars in P. F. They cause us a vast amount of annoyance and expense. We have spent hours watching for them with a gun, but they do not come at that time. 2. Why is it, with the yearly sales of so many incubators and brooders, supposed to bring out early chicks, that the price of late fall and early winter eggs remains as high as ever?" Where hawks are very troublesome the gun is one of the best protections, but you must keep in hiding while waiting for them. If you can conceal yourself, under a coop or something you can probably get a shot. If they won't come so long as a man is in sight (and generally they won't) a good scarecrow is effective in keeping them away. A good remedy is to set up a pole twelve or fifteen feet high at a convenient place near the chickens and set a steel trap on the top of it with a chicken fastened on the trigger; sometimes hawks can be caught in such a trap without any chicken on the trigger; a hawk comes to light on the post to take a look around and traps himself. Another is to put arsenic or strychnine into a small dead chicken and leave it where the hawk can get at it, keeping the others penned up meanwhile. 2. The chief reason is because the demand, especially for a choice article, increases more rapidly than the supply. There is a very rapid increase in the production of early chicks, late chicks and winter eggs, but the call for them increases still more rapidly. Not all of the incubators sold produce their thousands of chicks. There are incubators that don't come up to the glowing promises of the makers. Then again, some people are foolish enough to put eggs into an incubator which it is impossible should hatch. Don't let any such question prevent your hatching and raising all the chicks possible. Your own State imports from outside, chiefly from the West, some two and a half million dollars' worth of eggs and poultry a year!

Rose Combed Leghorns.—J. L. Crim, Pekin, Ind., writes: "Are the Rose Combed Leghorns as prolific layers and as good in other points as the Single Combed, and which is the better, White or Brown? There are no Rose Combed Leghorns in this vicinity, but I think they would be better on account of our severe winters." There should be no difference between the Rose and Single Combed Leghorns as to egg production, but as the Rose Combed are much less common they are bred more for show purposes, hence more fancy bred and less desirable. The same reason would apply to Whites and Browns, the latter being less widely bred, hence more fancy bred and less desirable. But why do you prefer Leghorns? White or Buff Wyandottes, or White or Barred P. Rocks will pay you better. They will lay you quite as many eggs, probably more if you handle them right, and are good for meat also, so that you have both profits. The Wyandottes have close rose combs, and you cannot find a better all-purpose fowl.

Dilated Crop.—L. L. Guthrie, Riverdale, Mich., writes: "Will you please tell us what ails our hens? We have three with their crops down so they drag on the ground when they eat. Is this a disease? Is it caused from a lack of proper treatment? They have been fed corn, wheat, millet seed, boiled potatoes, and some cabbage and green stuff, with plenty of milk and water. Their roosts are 2 to 3 feet from floor. If you could tell us how to prevent more from getting the same way we would be greatly obliged." The trouble is apparently what is called "dilated crop," the crop being stretched beyond its ability to contract, through not enough feed at some times and then eating too much at other times. There is nothing else indicated in your description, and if you will feed regularly and moderately of those foods you should not have such trouble. Do not feed many boiled potatoes, as they are mostly starch and are fattening. You ought to feed some animal food, as cut fresh bone, meat meal or beef scrap. Write D. W. Romaine, 124 Warren St. New York, for a sample of his "Boiled Beef and Bone."

Wants to Increase Poultry Business.—S. Menres, Clarkton, N. C., writes: "I want to greatly increase my poultry business and am thinking of getting incubators and brooders. My main object will be to build up a trade in eggs. I have White Plymouth Rocks and Leghorns; how late could I profitably hatch chickens in order to save pullets for layers? Will it pay as late as this (March 10th), to get an incubator for this season? Will it pay to run the incubator all summer and raise chickens for market? Will bone meal and animal meal keep good any length of time, and will it pay to feed it to chicks throughout the summer?" Wanting to increase your poultry work the thing to do is buy incubators and brooders and hatch and raise chickens. Buying in March you could get out at least two, (if not three) hatches before June 15th, but we wouldn't hatch later than that to get pullets for layers, and the last hatch should be all Leghorns. If handled right and fed right, Leghorn pullets hatched in first of June should be laying by November, and that is time of highest prices for eggs. Whether it will pay to run the incubators all summer will depend upon several things, and one of them is the getting of good, hatchable eggs in summer. There is a good market for good chicks, but unfortunately the Leghorns do not make good market chicks. The White P. Rocks are very much better, and the White Wyandottes better still; and especially is this true if you breed to a short-legged, chunky bodied type. Breed them "fine boned" if you want the best market bird and great layers, too. Yes, bone meal and meat meal will keep any length of time if kept dry, and it will pay well to feed them to growing chicks; they promote growth—make them grow faster and come to laying maturity in much less time.

◆

A Fine Kidney Remedy.
Mr. A. S. Hitchcock, East Hampton, Conn., (The Clothier) says if any sufferer from Kidney and Bladder Disease will write him he will direct them to the perfect home cure he used. He makes no charge whatever for the favor.

Extraordinary Buggy Offer. — The Economy Buggy Co., exclusive makers of carriage and harness, Box A 55, Cincinnati, O., are building 1,000 of their celebrated Economy Ideal Buggies, which are regularly marketed at $60, and are, until June 7th only, offering them to our readers at the low price of $42.50, throwing in for good measure with each vehicle, free of all cost, one Economy Storm Front and one Economy Dust Hood, two essential articles for comfort and stylishness and costing alone $5.25 in any store. The terms the Economy Buggy Co. offers are as liberal as the price is low. They propose to reserve one of these buggies and storm front and dust hood for every person who writes them by June 7th, 1903, and encloses five dollars. Catalogue and descriptive circulars will at once be sent the customer, fully describing all the options as to build, springs, finish, etc., of which there are many choices to select from. If the description fails to please him, he can at once have his five dollars reservation returned to him on request. If he finds the description to be just what he would expect to pay $60 or more for, he can send the Economy people the balance of $37.50 and shipping directions and the buggy—just as ordered and specified—together with the storm front and dust hood will be forwarded promptly. And this is not all. When the buggy arrives, examine it, hitch to it and try it thoroughly for ten days. If at the end of that time you are not perfectly satisfied with your purchase, send the buggy back to the factory and every dollar of your $42.50 will be returned. Be sure to mention the P. F. when writing.

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PROF. W. F. MASSEY, Editor.

Philadelphia, May 23, 1903

To the New Readers.

To the thousands who have come in under our recent proposal, the Editor wishes to say a few words. We are endeavoring to make the P. F. just what its name indicates, a paper to aid in the every day practical work of the farm, a text book on practical agriculture that will be an education to the men who study it and aim to improve in their practice and methods of farming. It is a paper intended to help the farmers in every section of the country, North, West, East and South, and in every section there are men engaged in the making of the paper who are familiar with the agriculture of their section, and are competent to aid their neighbors. Then, more than any other farm paper in the land, the P. F. is made up from the experiences of its readers in every section of the country. We hear from the men on the farms, and women, too, in the Experience Pool, the Mistakes and Failures, the Short Cuts, and the Implement Annex, and people in all parts of the country get the ideas of those living remote from them, and thus learn what the toilers are doing in every section. Mr. Greiner, in Northern New York, tells about gardening there, while in the Notes from a Carolina Garden we have the practices of the South. In the great and prosperous agricultural State of Ohio, Mr. Terry gives advice to the farmers of the Middle States, from a long and successful experience, while the experience of the Editor in the agriculture of the South enables him to aid the cotton and tobacco growers there. No more truly national farm paper exists, and we welcome the new names from every section and hope they will be permanent members of the P. F. family. In this connection we wish to thank the friends of the P. F. for the substantial aid which made the presence of these thousands of new faces possible. Types are cold instrumentalities for conveying thanks. We wish we could take every friend by the hand and give our thanks by word of mouth.

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The Farm Garden.

In the hurry and rush of the farm work in spring there is danger that the garden may be neglected. While every farmer cannot be a market gardener, there is no doubt that every one can raise an abundant supply of vegetables for the family, and in the raising of these can have a surplus that can be disposed of and help wonderfully in the family expenses, or at least pay all the cost of getting the family supply. We know this from experience. Few farmers are more crowded with work of all sorts than the Editor of the P. F. and yet his garden is not only a source of pleasure and recreation, but of real profit. As we have been writing here a telephone message comes from a city grocer: "My wagon will be there at 5 o'clock and I want 15 bunches of onions, two dozen heads of lettuce and two bushels of green peas." And he will get them, while our table is abundantly supplied with the same, and the same man got a crate of strawberries this morning. It is true that few are so favorably situated as to have a city at their door and nothing to do but prepare the vegetables and deliver them to the grocer at the door. But any farmer who has a home market not too far away can make his garden the most profitable part of the farm of the same size. Grow an abundance for home use of wholesome vegetables and fruits, and have the best of them on your table in abundance, and in doing this you will always have some left to sell.

◆

How About the Farmers.

The new Department of Commerce is going to make efforts to introduce the improved American farm machinery into foreign countries for the purpose of increasing the sales of our implement manufacturers. But how about the farmer whose crops have built up these implement factories? Would it not be better for the Egyptian Fellah to keep on stirring the earth with a forked limb of a tree? With the thousands of acres of new lands to be irrigated in the Nile Valley, a progressive system of agriculture there would be a serious competition with the farmers of America, especially in corn and cotton. If the sale of the crops here is interfered with it will react upon the manufacturers of farm machinery in their sales at home, and they may lose more than they gain by getting backward people to use their improved farm machines.

◆

The Negro Farmers.

On the 2nd of May the Editor of the P. F. had the pleasure to attend and address a conference of the colored farmers of Granville Co., N. C., by special request. These men are mainly tobacco growers, and to a greater extent than is usual in many sections, they own their lands and are studying to improve and advance in their cultivation. The negro farmers of Granville county own and cultivate nearly 16,000 acres of land, and when it is considered that these lands are mainly in small farms it will be seen that there are a great many colored land owners. We never had a more attentive audience, nor one where there were more questions asked, and we were greatly pleased to note the spirit of improvement manifested. There is a growing tendency among the colored people to get land of their own and to make homes for themselves. This is the third assemblage of negro farmers we have addressed this spring and the outlook is very gratifying to all who wish well to the race.

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Picnics.

A basket picnic during a leisure spell in summer is always an enjoyable social affair in the country. Now there is no reason why the outing in the woods for a day should not be made also a means for instruction. In one country neighborhood we are familiar with, the farmers have an organization which meets once a year in a pleasant grove at the county fair grounds. All bring their baskets of eatables, and they secure good speakers who entertain and instruct during the morning hours. Then dinner, and after that fun of all sorts till time to go home. This organization of the county farmers has been kept up in this way for over forty years, and now and then when any new matter of culture is talked about the chairman calls a meeting of the organization to discuss it. Some years ago the county became interested in tobacco culture, and as it promised well for the section the county organization held meetings weekly during the fall and early winter to discuss the tobacco question and to get all the information possible on the crop. They then went to work intelligently and have made a success of tobacco of a fine grade. An organization of this sort can be made very useful in any county. A farmers' club that meets statedly monthly is apt to wear out in interest, but an organization that meets but once a year and then for social enjoyment, as well as instruction, will be kept up, since no one gets tired of it. And then when any matter of general interest is afloat in the community the organization can be called together as often as desirable to discuss that topic while the particular interest lasts, and will have then a full attendance. Such a club, assembling at the call of the chairman, never wears out. The same organization can have the management of the Farmers' Institute in the county, and be a constant means for the advancement of agriculture in its range.

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Boycott the Saloon.

The American Agriculturist says that the liquor dealers in New York want to boycott the farm produce because the farmers of the State favor the new excise law, and suggests that it would be a good thing for the farmers to boycott the saloon. The farmers can do without liquor better than the city people can do without their produce, and they need not fear the efforts of the saloonkeepers. If people throughout the country would boycott the saloons there would soon be no saloons. The liquor saloon is an evil in any place. It adds nothing to the wealth of the community, but on the other hand tends to poverty and neglect of business. It will be a happy day not only for the farmers of New York State, but everywhere else, when the farmers all boycott the saloon. The best prohibitory law in the world would be for everyone to stop patronizing the bars. So long as men will drink alcoholic liquors they will be sold, law or no law, but if consumption could be stopped the bars will have to go out of business. The farmer needs all his wits to be a successful man in his calling, and needs no stimulant but the ambition to excel.

◆

Fighting the Potato Bugs.

We have found the powder gun so useful in ridding us of the green pea louse with tobacco dust that we intend to fight the potato beetles in the same way. A tobacco manufacturer supplied us with a goodly amount of the dust, which is as fine as snuff. The dust is a good insecticide itself, and we shall use it as a carrier of the Paris green, and mix one part of Paris green to 75 parts of the tobacco dust, and expect that one dressing will exterminate the larvæ of the beetles. This dust can usually be had cheaply from the factories which make smoking tobacco. We do not know what the price is, since ours was a present and cost only the freight. But its fineness and lightness makes it an admirable medium for using dry Paris green, and past experience has shown us that dry powder is more effectual than Paris green and water and more easily applied to the potatoes. Of course some spraying with Bordeaux may be necessary to ward off rot, but as our potatoes this spring are on land where no potatoes have ever before been grown we have seen no evidences of blight, and as the crop is well advanced there may be none at all. But we are watching for the hatching of the young beetles and that will be the signal for the war.

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"I like the P. F. better than any other farm paper, and it really seems the best of all, although I take for myself and family nearly a score."—Sarah A. Pleas, Dunreith, Ind.

The Cream of the Bulletins.

Maine Agricultural Experiment Station. Bulletin No. 37. Potato Insecticides and Fungicides. Oat Smut and its Prevention. By Chas. D. Woods.

The bulletin contains notes upon the more common insecticides sold in Maine in 1902; upon the use of Bordeaux mixture in 1902 on potatoes, comparing the various insecticides. The Colorado beetle was not especially abundant. Early in the season there were but few old beetles as compared with previous years. The damage from the flea beetle was rather below than above the average. Paris green was the leading insecticide used. Pure Paris green is aceto-arsenite of copper and should carry 58.65 per cent. of arsenic. An arsenite of copper of 52.94 per cent. of arsenic is often sold as Paris green. Commercially there is practically no Paris green made that is really an aceto-arsenite of copper. Since white arsenic is cheaper the manufacturers endeavor to get as much white arsenic in as possible consistent with a good green color. The scorching of the foliage from Paris green is due to this free white arsenic, which is soluble in water. The green made by the C. T. Reynolds Company, which is largely used in Maine, was found to carry the highest percentage of water soluble arsenic. Much of the harm done by the arsenic can be avoided by mixing lime with it. To be effectual it should be mixed with lime water several days before using and the mixture occasionally stirred. The Maine Station offers to examine samples of Paris green if time is allowed for it. Arsenate of lead is another insecticide coming into use. One firm sells it under the name of Disparene. This substance has from 50 to 60 per cent. of the actual arsenate of lead. It will take four pounds to give as much arsenous oxide as one pound of Paris green. It is very slightly soluble in water and hurts the foliage less than Paris green. It had not as good effect in 1902, as previously. There are other preparations which depend on arsenic for their effect, but in which it is used in very small quantities. These are practically Paris green mixed with gypsum, coal dust, etc., and, in fact, are merely badly adulterated Paris green. Black death, which has been largely advertised is Paris green diluted with plaster and colored with charcoal. Quick Death resembles Black Death and is of the same composition. English Bug Compound consists of white arsenic diluted with plaster. Kno bug is a reddish-brown powder containing 88 per cent. of plaster, 2 per cent. iron ochre, 4.5 per cent. of nitrate of potash, 2.5 per cent. of Paris green and 2 per cent. of carbonate of copper. The Paris green is the only thing of importance to the potato grower. Plaster and nitrate of potash contain plant food, but do little good in small applications. The Station published Kno Bug as a fraud last June because it claimed to be better than Paris green, when it depends on Paris green for its effect. It claimed to prevent blight, for which carbonate of copper is not a specific. It claimed to prevent scab, which no treatment of the vines can do. The makers claimed that their chemists deceived them and they will not claim fungicidal effects, but adhere simply to the insecticide. In comparison with Bordeaux mixture and a poison the results were not in favor of the Knobug. Hammond's Slug Shot carries sulphur, carbolic acid, Paris green and tobacco, mixed with plaster. The makers claim but 1 per cent. of arsenic, but analysis shows 1.58 per cent. Bug Death is an impure zinc oxide. As an insecticide at rate of 100 pounds per acre it drove the bugs, but had no effect at 40 pounds per acre. It seemed to have some effect in preventing blight. Heavy applications scorched the leaves. It is too costly for use. The bulletin goes into details of the experiments with the various insecticides of which we have given the general statement. In the treatment for the prevention of oat smut the use of formalin has been found effective. It consists in soaking the seed for two hours in a solution of one pound of the formalin to 50 or 60 gallons of water. Strong formalin is poison and should be used carefully. Other methods are detailed, but the formalin treatment is so effectual that there is little reason for anything else. The method of use is as follows: For 50 bushels of oats get one pound of the formalin, or, more properly, formaldehyde. Dip one-half into another cask in order to treat two sacks at once. Put two bushel sack into each cask for twenty minutes, and then let the sacks drain to save the liquid. Empty on the floor or on canvas to dry and proceed as before, using the same sacks. This solution is not poisonous and will not injure the clothing or hands. The oats should be spread a day or two to dry and the sprouting will be facilitated by the treatment.

◆

The P. F. is sent for only 50 cents per year in clubs of 6, and a handsome premium to the club raiser.

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Our Most Popular Offer.

It is still time to get seeds and plants for late garden making; our offer of a dollar seed and plant due bill and the P. F. for one year for only $1.25 will help you. A dollar's worth of seeds or plants will cost only a quarter. Also remember that we send the P. F. in clubs of six at fifty cents per year, and give the club raiser the choice of any one of fourteen valuable premiums. These clubs are always in order, and any friend of the P. F. can do it no better service than to make up one or more of these clubs.

COMMERCIAL

Philadelphia, May 16, 1903.

WHEAT.—

No. 2, red	79½	@	80
No. 2, Penna. and Del.	80½	@	81

CORN.—

No. 2, spot and May	50	@	50¼
No. 2, yellow, local trade	54		

OATS.—

No. 2, white natural	39½	@	40
No. 2, white, clipped	40		
No. 3, white clipped	38		

LIVE POULTRY.—

Supplies of fowls were light and the market was a shade higher, with a good demand. Desirable sized spring chickens were wanted at outside quotations, but undersized stock was hard to move, except at low rates.

Fowls, hens, per lb.	13½		
Roosters, per lb.	9	@	10
Spring chickens—			
1½ to 2 lbs., per lb.	28	@	33
Smaller, per lb.	18	@	22

DRESSED POULTRY.—

Receipts of fresh-killed fowls were light and the market advanced ½c. under a good demand. Early sales of choice desirable sized stock were made at 14c., but most holders were unwilling to sell below 14½c., and supplies were afterward cleaned up at the latter rate. Fresh-killed broiling chickens were in moderate supply and steady, with a fair demand. Frozen poultry sold fairly at quotations.

Fresh killed fowls, choice	14	@	14½
Fresh killed fowls, average	13	@	13½
Fresh killed broilers, nearby	35	@	40
Fresh killed broilers, West.	30	@	35
Frozen fowls, average	12½	@	13½
Frozen broilers, nearby	28	@	30
Frozen broilers, Western	19	@	21
Frozen roasters, choice	16	@	17
Frozen turkeys, young toms	18	@	19

BUTTER.—

Western creamery, extra	22½		
Western creamery, firsts	21½	@	22
Ladle packed	14	@	16
Prints, nearby, extra	23	@	24
Prints, nearby, firsts	22		

EGGS.—

QUOTATIONS AT MARK.

Nearby fresh	16½		
do do free cases	16¾	@	17
Western, choice, free cases	16½	@	17
Southern do do	15	@	16
So. Western do do	16½		

Recrated, 1@2c. above wholesale prices.

CHEESE.—

N. Y., f. c. small—			
Fall made, fancy	14¾	@	15
Good to prime	14	@	14½
New York, new, choice	12½	@	12¾
Fair to good	11¾	@	12¼
State, part skims, prime	7	@	10

VEGETABLES.—

Asparagus, So., bunch	10	@	25
Beans, So., per ½-bbl. bas.	2.00	@	2.25
Beets, So., per 100 bun	2.50	@	3.00
Cabbage, So., bbl. crate	1.00	@	1.50
Cucumbers, Fla., per crate	75	@	1.00
Cucumbers, per bas.	1.00	@	1.50
Eggplant, Fla., per box	2.50	@	3.50
Peas, So., per bu. bas.	1.25	@	1.75
Squash, So., per 1-3-bbl. bas.	75	@	1.00
Tomatoes, Florida, crate	1.50	@	3.00

POTATOES.—

White, Pa., per bu.	68	@	72
do New York, per bu.	65	@	68
do Western, per bu.	55	@	65
do Southern, prime, bbl.	4.25	@	4.50
do do medium, per bbl	3.00	@	3.50
Sweets, Jersey, per basket	45	@	50

BEANS AND PEAS.—

Marrows, H.P., 1902, per bu.	2.55	@	2.60
Scotch peas, per bu.	1.70		
Green peas, per bu.	1.65		

COTTON.—

Cotton, per cwt.	11.30		

FEED.—

Bran, bulk, winter, per ton	17.00	@	17.50
Bran, sacked, spring	17.00	@	17.50

HAY AND STRAW.—

Timothy, No. Pa., choice, l'g.	20.50	@	21.00
do Western	20.00		
Timothy, mixed Western	14.00	@	17.00
Straw, straight rye	15.50	@	17.50
Wheat	11.50	@	12.00
Oat	9.00	@	10.00

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle steady.

Extra steers	5¼	@	5½
Good steers	5	@	5¼
Medium steers	4¾	@	5
Common steers	4¼	@	4¾

CALVES.—

Calves about steady.

Extra calves	7¼	@	7¾
Fair to good	6	@	7
Poor and common	4½	@	5½
Grassers	3	@	4

HOGS.—

Hogs lower.

Fat hogs, Pa., Del. & Md.	6½	@	8¾
Fat hogs, Western	9¼	@	9¾

SHEEP.—

Sheep steady, lambs active.

Sheep, extra clipped	5¼		
Sheep, good	4½	@	5
Sheep, medium	3½	@	4¼
Sheep, common	2	@	3
Lambs, spring	5	@	8½

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New York, May 16, 1903.

WHEAT.—

Wheat futures closed dull and irregular. The weather was favorable, if anything, to the growing crop and doubtless had much to do with restricting transactions. Rains were heavy and general in Kansas, Missouri and Iowa and scattered in Southern Illinois, Nebraska, Minnesota and South Dakota. Where crops are in the ground conditions are very desirable, but where there is pressing farm work to be done there is too much moisture. The Illinois report on both wheat and corn was decidedly bullish. A late summary of the conditions in Iowa was bearish, but had little effect on the market. The trade apparently took little interest in the Government report on condition and private telegrams had more effect than the official announcement. The Bradstreet visible was favorable to the bull side, but did not instill any activity into the market. There was a decrease in the United States and Canada east of the Rocky Mountains of 2,727,000 bushels; afloat for and in Europe decreased 3,600,000 bushels, and the world's visible supply decreased 6,327,000 bushels. Seaboard receipts were 407,937 bushels and exports were 499,537 bushels. Interior receipts were 254,601 bu., with shipments of 307,010 bu.

No. 2, red	82¾		
No. 1, Northern Duluth	91¾		

CORN.—

No. 2	53½		
No. 2, white	55		
No. 2, yellow	55		

OATS.—

Oat futures were nominally firm, but trading was very light.

No. 2, white	41		
No. 2, mixed	38¼		
No. 3, white	38¾		

HAY.—

Prime, large bales, 100 lbs.	1.10		
No. 1	1.00	@	1.05
No. 2	85	@	95

BUTTER.—

Creamery, extra, per lb.	22		
Creamery, firsts	21	@	21½
State dairy, fresh, tubs—			
Fancy, per lb.	21		
Firsts, per lb.	19	@	20
West. Imitation Creamery—			
Finest, per lb.	19		
Good to prime	17	@	18
Western Factory—			
Fresh, fancy, small tubs	15½		
Good to prime	14½	@	15
Packing stock, solid packed	14	@	15
Rolls, fresh, com. to prime	14	@	15

NEW CHEESE.—

State, f. c., small choice	12		
Fair to prime	9⅝	@	11¼
Large colored, choice	11¾		
Large white, choice	11¾		
State, light skims—			
Choice	8		
Part skims, prime	6	@	6½
Fair to good	5	@	5½
Full skims	2		

OLD CHEESE.—

State, f. c.—			
Fall made, colored	13	@	15
State, f. c., large			
Fall made, white	13	@	14¾

EGGS.—

QUOTATIONS AT MARK.

State, Pa., and nearby—			
Fancy selected white	18½		
Fresh gathered, firsts	17		
Western—			
Storage packed, firsts	17		
Fresh gathered, Nor., sec.	17		
Southerly sections	16½		
Ky., fresh gathered, firsts	16½		
Tennessee and other Southern—			
Fresh gathered, firsts	15	@	15½

LIVE POULTRY.—

Spring chickens, nearby, lb.	25		
Southern, per lb.	18	@	20
Fowls, selected, heavy, lb.	13½		
Roosters, young, per lb.	8½		
Turkeys, per lb.	10	@	11
Ducks, average, per pair	70	@	1.00
Geese, average, per pair	90	@	1.25
Live pigeons, young, pair	35		
Live pigeons, old, pair	25		

DRESSED POULTRY.—

FRESH KILLED ICED.

Turkeys—			
Young hens & toms	15		
Fair to good	13	@	14
Old	15	@	16
Broilers—			
Phila., 3 to 4 lbs. pair, lb.	35	@	40
State & Penna., 3 to 4 lbs. to pair, per lb.	25	@	30
Balt., d. p., 2 lbs. per pair	40	@	60
Fowls, West., small, fancy	14		
Dry picked, small, fancy	14		
Heavy	13½		
Southern & So. Western, d.p.	13½	@	14
Scalded	13	@	13½
Spring ducks, nearby, per lb.	22		
Squabs—			
Prime, large, white, doz.	2.75		
Mixed, per doz.	2.25		
Dark, per doz.	1.50		

FROZEN.

Turkeys, young hens, No. 1	18		
Roasting chickens, large and soft meated	16	@	17
Average No. 1	15		
Broilers, scalded, No. 1	16	@	18
Broilers, d. p., No. 1	19	@	21
Fowls, No. 1	13½		
Capons, choice, heavy	18	@	20
Medium size	16	@	17
Ducks, No. 1	16	@	18
Geese, No. 1	11	@	12

APPLES.—

Mo. Pippins, bbl.	2.50	@	3.00
Russet, per bbl.	2.25	@	2.35
Ben Davis, per bbl.	2.00	@	3.00
Baldwin, per bbl.	2.50	@	3.00
Greenings, per bbl.	2.50	@	3.50

GREEN FRUITS.—

Grape fruit, Cal., box	3.00	@	6.00
Oranges, Cal., blood, box	2.25	@	2.30
Oranges, Ca., blood, ½ box	1.60	@	2.20
Oranges, Cal., navels, box	2.00	@	3.50
Pineapples, Fla., 24s-36s	3.00	@	3.50
Strawberries, Char., per qt.	10	@	18
Strawberries, N. C., qt.	5	@	14
Strawberries, Nor., qt.	6	@	15
Strawberries, East. Shore	10	@	15

VEGETABLES.—

Asparagus—			
Colossal, per doz.	3.00	@	5.00
Extra, prime, per doz.	2.25	@	2.50
Prime, per doz.	1.50	@	2.00
Short cut, per doz.	1.00	@	1.25
Culls, per doz.	75	@	1.00
Beets, old, per bbl.	40	@	50
Charleston, per 100	1.00	@	3.00
Southern, per 100	2.00	@	5.00
Cabbage—			
Charleston, new, bbl. crate	75	@	1.00
N. C., bbl. crate	75	@	1.00
Norfolk, bbl. crate	75	@	1.00
Cucumbers, corb, per doz.	1.25	@	2.00
Char. or Sav., crt. or bas.	2.00	@	2.50
Celery, Fla., fancy, case	1.00	@	4.00
Eggplants, crate	1.00	@	2.75
Kale, bbl.	50	@	75
Lettuce, So., per bbl.	1.00	@	2.75
Parsnips, bbl.	30	@	50
Peas, So., 1-3-bbl. basket	75	@	2.50
Peppers, green, Fla., crate	1.50	@	2.00
Radishes, per 100	75	@	1.25
Norfolk, ½-bbl. basket	40	@	60
Rhubarb, per 100 bunches	1.00	@	2.00
Spinach, per bbl.	1.00	@	1.75
Turnips, N. J., per bbl.	1.00	@	3.00
Tomatoes, Fla., fancy, car.	1.00	@	2.50
Onions—			
Hard stock, yellow, bbl.	2.50	@	3.50
Red, bbl.	1.00	@	1.75
Average, red, bag	75	@	1.25
Yellow, bag	75	@	1.25
New Orleans, bag	1.25		

POTATOES.—

Fla., Rose, new, prime, bbl.	3.75	@	4.25
Rose, new, seconds, bbl.	2.50	@	3.25
Chilis, prime, per bbl.	2.25	@	3.50
So., second crop, per bbl.	2.00	@	3.00
Charleston, Rose, prime, bbl.	3.00	@	4.00
Chilis, new, prime, bbl.	3.50	@	4.00
Savannah, Rose, prime, bbl.	3.50	@	4.00
Rose, seconds, per bbl.	2.25	@	3.00
Chilis, prime, per bbl.	3.00	@	3.75
Chilis, seconds, per bbl.	2.00	@	2.75
Long Island, bbl.	1.75	@	2.12
Maine, per sack	1.75	@	2.25
State & West., bulk, 180 lbs.	1.50	@	2.00
Per 168-lb. sack	1.50	@	1.90
Western, per 150-lb. sack	1.40	@	1.50
Sweets—			
Vineland, cloth top bbl.	2.25	@	2.75
Other So. Jer., d-h bbl.	1.50	@	2.00
Jer. & Del., per bas.	75	@	1.00

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WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.

XX and above	30@31
X	28@29
Medium	29@30
Quarter blood	28@29
Common	25@27

UNWASHED (light and bright.)

Fine	19@22
Medium	21@22
Quarter blood	12@22
Coarse	20@21

UNWASHED (dark colored.)

Fine	16@17
Fine medium	17@19
Medium and quarter	18@20
Coarse	17@18

COMBING AND DELAINE FLEECES.

Washed fine Delaine	31@33
Washed medium	30@31
Washed low	29@30
Washed coarse	27@28
Unwashed medium	22@23
Unwashed quarter blood	22@23
Braid	21@22

ALWAYS ON HAND

THE PRACTICAL FARMER

The Practical Farmer Fountain Pen, Price $1.00, Postpaid.
Guaranteed the Equal of any $2.00 Fountain Pen Sold.

The ink does not dry in the pen; it can be used one day, laid aside for a week, and is then ready for business instantly; no soiling of the fingers; best gold pen and point; hard rubber holder; fully guaranteed in every respect; money back if not satisfactory. Plain or Stub point, as desired.

We will send the P. F. for one year and a Practical Farmer Fountain Pen for only $1.25; less than you would pay for the pen in any store. One of these pens FREE for a club of six yearly subscribers to the P. F. at 50 cts. each.

THE FARMER CO., Market and 18th Streets, Philadelphia.

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Editorial Chat.

Mrs. E. T. Moore, Preston, Md., would like the address of Sister Elizabeth, Hurlock, Md.

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Among the Flowers.

M. H. BURRIS.

PALMS.—Now that spring is here, flower lovers will be well repaid if they add to their collection a few palms. An erroneous idea prevails that this class of plants require special care and attention. On the contrary they will bear more neglect and rough usage than any other plants and yet be ready to respond to good treatment. The beginning of a collection can be made with slight expense, as florists sell small plants at a merely nominal value. Of course the pleasure is enhanced if one buys larger plants, but do not be discouraged in buying the smallest.

They at first have no distinguishing characteristics, but when the leaves begin to grow, or the fronds to unfold, one's pleasure in them increases day by day and never ceases. They grow in beauty and value each year and become like old friends that you would be loath to part from, and remember with regret if you have to. The most ornamental is Latania Barbanica, next, Cycas Revoluta, Linstonia Rotundifolia, L. Australis. All make showy plants. Of the rapid growers Seaforthia Elegans and Washingtonia Fillifera are the most graceful. There are many varieties of Arecas and Kentias and other handsome palms, that I have not mentioned, but these are most admired and best known. As I have before said, the culture is very simple. A clean pot suited to the size of plant, a few bits of charcoal for drainage, and leaf mould for filling, pressing the soil down well about the plant. Water well and set in a shady place undisturbed, with no further attention for a week at least, when a second watering may be necessary. Water only when the soil becomes dry, then water well. This applies to all palms, large or small. For good results it is desirable to wash the leaves of a palm frequently. How refreshed and beautiful a large palm looks just after a bath. If the scale—a small white insect—attacks the Cycas, as they frequently do, use the following simple emulsion: One pint Ivory soapsuds, one-half cup milk, one teaspoonful kerosene. They may require a small brush to remove them, but this is effectual. Soapsuds will also kill worms in the soil. The hot sun will blister the leaves of tender palms and the partial shade of a porch is an ideal location for summer. In the winter they will do well anywhere protected from freezing, though they will bear a low temperature. The most decorative of all plants are palms, and all lovers of "The House Beautiful" will be amply repaid for the care bestowed on them.

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Angora Cats.

ANNIE C. ADAMS.

I should like to tell the P. F. readers how they can raise Angora cats successfully and profitably, as I have done for six years. All farms are more or less infested with rats and mice, and since it is necessary to keep cats to reduce their numbers, why not keep the Angoras, as they are great ratters and mousers, and, besides being useful, they are both ornamental and profitable?

Buy one good male and one female (not related to each other) not less than three months old; one year old is still better, as there is little danger of losing them after that age is reached. These will cost from $2 to $5, according to their age and beauty. The first and most important point to be considered, when making your selection, is the tail, which should be a large plume, and the male has a larger tail than the female. They should have a large ruff around the neck, large eyes and tassels in the ears and between the toes. Cats of one color are more valuable than those of mixed colors. These cats have two litters of kittens a year, and from two to five kittens in a litter. It is best to sell the male kittens and keep the females to breed from. When the kittens are a year old, sell or exchange the father for another male, so as not to inbreed, as the kittens, if inbred, will be weak. Never wash the cats or kittens, as several washings will prove fatal to them. Brush the fur often, especially when they are shedding. A tablespoonful of sweet oil given to them occasionally, removes hair balls from the stomach. As soon as the kittens begin to eat, give them, once a week, a pinch of sulphur and one-fourth teaspoonful of powdered gunpowder in their milk, to remove worms, if they have any, as more kittens die from worms (from the age of six weeks to three months) than from any other cause.

Oatmeal and milk is a good food for kittens and they thrive well on it. Do not give them beef until they are a year old. These cats thrive best when given their liberty, so the farm seems to be the place best adapted to raising them. There is always a ready sale for the kittens, so anyone who is fond of cats will derive a great deal of pleasure as well as profit from raising them. People who are not fond of cats never buy them, so when we sell them we know they will not be abused as many common cats are.

Kennebunkport, Me.

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Spring Medical Hints.

HATTIE PEACOCK.

RECIPE No. 1.—Stand in front of a mirror, put your hands on your hips and laugh. Make believe if you can't raise a hearty laugh; after a while you will think how very foolish you look and you won't have to make believe, and you will laugh every time you think of how you looked. Laughing works on the nerves and liver, or that is how it affects me.

No. 2.—Sing. I think that helps, also; not solemn songs or hymns, but quick music. If you begin singing "Nearer My God to Thee," and such pieces (very sweet and pretty hymns they are in their places), you will grow glum, begin to think of your grievances and end in tears and sighs. The following is a chorus I sing when I have an attack of the blues:

"Singing I go along life's way
Praising the Lord, praising the Lord.
Singing I go along life's way
For Jesus has lifted my load."

The first word is "happy," but I like "singing" better. It isn't the words as much as it is the tune, though. One of my girl friends came here one morning "sick abed with the blues," and I sang my song to her and fairly forced her to sing it also. She told me afterward it had "haunted" her ever since.

No. 3.—For the Complexion.—When you first get up open the window and take a fresh air bath (this is when the air is warm and clear), then dress. Before eating, drink a cup of water, either quite hot or cold, then eat an apple, orange or something of the kind. Drink water before each meal and eat plenty of fruit.

No. 4.—For Freckles.—Mix sulphur (powdered) with lemon juice, making a paste; spread on the face and wear a cloth mask made of plain cloth with holes for nose and eyes. Use this on going to bed. Wash the face the next morning with soft water, with a few drops of benzoin in it. Farmers' wives have as much right to look pretty as city women have. Although I think it looks as silly to decorate the hair as it would to make our noses or eyes fancy, I think women should comb it becomingly. I admire pretty forms and good complexions, and while we improve the inside I don't think we should forget the outside.

No. 5.—For chapped, sunburned hands, mix three ounces mutton tallow, two ounces glycerine and one ounce gum camphor; set on back of stove. Use an earthen dish and melt all together slowly; stir often and it makes an excellent cold cream.

"Count your many blessings, count them one by one;
Count your many blessings, tell what God has done;
Count your blessings, count them one by one,
Count your many blessings, tell what God has done."

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The Small Fruit Garden.

SARAH A. PLEAS.

Children especially will derive more enjoyment from a square rod of fruits than from any like area on the farm, but for the promotion of health alone, these should contribute largely to our daily bill of fare, which they will do no doubt, when it becomes more generally known how easily each family may grow a bountiful supply for home use, if they attempt no more. If necessary, the fence and buildings of the most unpretentious home will furnish ample accommodations for the grapes. Moore's Early, Concord, Brighton, Diana and Pocklington embrace a good variety, their requirements being an annual pruning and tying in place. The earth should be rich and thoroughly prepared before planting any fruit, after which a woman and children may easily secure a good crop annually. Plant as early in spring as the ground works nicely. Cultivate at once, never allowing a crust to form, or weeds to get a foothold. Herein lies the secret to success. With the weeder or light rake, the entire garden may be gone over rapidly and easily. A few dozen plants of each kind will suffice. Select three or four varieties of strawberries, never allow roots to become dry; plant in natural position, with crowns just exposed; firm well, and keep bloom off the first season, allowing runners to root only every six inches, forming a 15-inch row, keeping all other runners off before rooting. After freezing, give a light, clean mulch over winter, to prevent roots being broken by repeated freezing; this retards spring growth, thus lessening the danger from late frosts. See that plants push up through this, yet keep it close to their crowns to protect berries from becoming soiled during rains. Long rows facilitate plowing. All plants may be put two and a half feet in the row. Currant and gooseberry rows four feet apart, requiring little else than clean culture and dusting with lime or wood ashes after blooming, to prevent an attack from worms. Raspberry rows should be six feet apart. Top them when planting; clip new growth at thirty inches to make them stocky, and again at four feet to prevent tips rooting. Blackberries should be seven feet, topped at four feet. Shorten branches to be able to pass among them freely. Suckers not allowed nearer than fifteen inches. Keep in straight rows; cut spindling ones all out. After two years, if the ground is kept heavily mulched it will conserve moisture, prevent weeds, and save cultivation. Break out old canes in spring, and cut off all winter-killed ends. One orange quince, three plums, four cherries in variety, and one persimmon, will prove a luxury. Dewberries have no advantage over blackberries, are more aggressive and more troublesome to harvest.

Dunreith, Ind.

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Golden Thoughts.

W. CLEVELAND.

Take care to correct in yourself what you dislike in another.

Characters that can stand temptation, and not snap under the sudden pressures of life are the ones wanted.

Hasty conclusions are the mark of the ignorant; a wise man doubteth, but it is a little learning that makes man conclude hastily.

As the world goes, it is not worth while to reason with a fanatic, because they will uphold their fancies by the authority of your facts.

There is a difference between the two blessings of health and money; money is the most envied, but the least enjoyed; health is the most enjoyed, but the least envied.

There is nothing more delightful than the speaking or hearing of truth; so there is no conversation so agreeable as that of the one of integrity, who hears without intention to betray, and speaks not to deceive.

Napa Co., Cal.

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The Kitchen Garden and What it Produced in the Year 1902.

J. H. LIVINGSTONE.

My garden plat is 160 feet long and 44 feet wide. A strip the whole length of this and 4 feet wide, was arranged for flowers, which was, to those who love flowers, the most beautiful spot in the garden. The balance has been well manured with barnyard manure spread on the surface during the winter, on the snow. It was plowed under the 19th day of April, with a 2-horse plow, about six inches deep; then after it had been well harrowed with a good spring-tooth harrow, furrows were drawn with a one-horse shovel plow, about 18 inches apart and 4 inches deep. In these furrows well rotted cow manure, two years old, kept under cover in a shed, was spread all along in the furrows. On the 21st of April the first planting or sowing was done and it was continued pretty much all along through the season. Now what was raised in this garden and was not consumed by three of a family, was taken to a mining town and sold, as follows:

Cabbage and cabbage plants..	$ 7.23
Radishes	1.68
Onions	4.98
Tomatoes	16.03
Currants	.70
Peas	.98
Parsley	1.61
Squashes	1.10
Turnips	.70
Rhubarb	8.45
Lettuce	52.32
Beans	1.68
Carrots	1.64
Parsnips	.60
Sweet corn	1.81
Beets	18.27
Grapes	1.65
	$121.43

Lettuce was first sold at ten cents for a grape basketful; after it got large and more plentiful I sold it for ten cents a peck or forty cents a bushel. Almost all the rest was sold for five cents a bunch. I raise all my plants in the open air, except for early spring planting; such are raised in the kitchen windows and on stands. Things not included are about 4,000 cabbage plants for our main crop, six bushels of beets not sold, and about two bushels of onions. Thanks to the P. F. for the knowledge I have in farming and gardening. It is the most practical paper on such topics I can read.

Cambria Co., Pa.

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Correspondence.

A Reader, Ohio, writes: We received our first P. F. March 28th, and were glad to find therein a Home Circle, one that is elevating and from which we are taught to think of our future home. Home—what love, what memories that brings to us through the various changes of life. What happiness and contentment or misery and despair from childhood to old age! I think Louise Palmer's idea of home is about right. Flowers, yes, the dear shut-ins do love to be remembered with flowers as well as with letters. A young friend told me, after recovering from a long sickness, that she would always know what to send to the sick, "flowers," some she had tended, for they spoke more of love than those that were bought. Is there any room in our home too good for our children? If there is we had better have it torn down. Did I hear someone say: "Just turn the children loose; they will tear it down for you?" Not if they have been taught that it is wrong to destroy things. How young our babies can be taught that they can enjoy pretty things without touching them! Our Heavenly Father gave us the beautiful things and all ought to do what they can to make home beautiful. Here is my recipe for chocolate pie with one crust: One pint of milk brought to the boiling point; beat the yolks of three eggs with a coffee cup of sugar and cake of grated chocolate; dissolve two large spoonfuls of cornstarch in half a cup of milk; pour all into the hot milk. Let boil one minute, stirring all the time. Pour into crust that has been baked. Beat the whites with large spoon of white sugar; put on top, set in oven to brown. This is enough for two pies. Some like vanilla in frosting.

Hattie Peacock, Gardiner, Maine, writes: While writing to mother this morning I decided to write to the P. F. also. Isn't Mrs. Nan J. Wright Wm. T. Wright's wife? And does he talk to you like he did to Mrs. Melville? I wouldn't help him if he should for it would be dreadfully monotonous. I hope I am not intruding, but I really don't think we women need "sufferege." To be sure, men who are lower mentally and morally than the lowest beast, and who are ignorant beyond all expression, have the right which is denied us women. I think women who have property of their own—not those whose husbands are afraid the property will be taken for debt and make it over to their wives for that purpose—but women who carry on business of various kinds, on which they pay taxes, should vote, if their ballots could be sent to them privately for them to fill out. To vote here in Gardiner, a woman must meet not only drunken men, but drunken, vile women also. That would make me feel as if I were defiled by even breathing the same air they do. This doesn't sound like missionary talk, but I don't preach reform, and mixing with them will not help me and I can do them no good. My husband would talk naughty if I should propose to go into a crowd of such people. I think my reason for not wanting to vote is just about what the majority of the women's idea of the thing is, and while I would have more honor than to sell my vote, I would prefer the three dollars I would have to pay for poll tax. If I had been David W's wife I would have made that door step myself. I made one for one of my neighbors and she gave me a pound of butter to pay for it. I have seen women who "loved" to wash and who could not sew a seam straight, and women who "loved" to sew but "just hated" to wash, yet these two women would never think of exchanging work. I think it would be well for women to exchange work as men do. I want to tell you about my neighbor, my very particular neighbor, I mean. She is nearly fifty, stout and very comely, with the saddest mouth I ever saw. She is the kind of a woman whom one likes to feel is "there" when she is wanted. One to love and trust as one would a sister. I can call on her at any time of the day, with or without a hat on, and in my wrapper. When we see each other in our yards we trill one at the other. Sometimes I don't see her for two weeks, but if she isn't sick I know she is busy, and when the "spirit moves" I go to see her. Then again, we sometimes meet every day for a week. You who have no "back door" neighbor, get one at once, even if you must import one. Keep suspicion out and generous unselfishness (if I may use the expression) in, and you'll take more comfort in that one friendship than you receive from all the stately calls, musicales, etc., that you can attend or receive in a year. "It is not good for man to live alone," neither is it good for neighbors to live within themselves too much. By the way, those who intend to send for rudbeckia (to Mrs. Palmer) had better send your orders in soon, for I am going down on a visit before long and I always make love to all her stray plants.

[Mrs. Peacock's letters are like a near neighbor dropping in. If she were here by our desk this morning talking "sufferege," we should pity her because she missed that lovely cantata the other night; then she would say "but, bless you, I didn't miss it; I was there; didn't you see me?" And we would breathlessly inquire: "And what did your husband say—did he swear?" "Swear!" she would echo, "why Charles don't swear, and anyway why should he? He was there himself, and Ruth, too." "But, my dear Hattie, didn't you see all those fellows from the saloons, and a woman right down in front—you know her—hard case!—and, well there were people who could not help you and you could do them no good. I really would not have thought you'd gone. You must feel awfully defiled." "Well, I did not notice, but they certainly did not hurt me. I paid no attention to anything nor anybody but my friends and the entertainment." "Could you not do the same at the polling place?" And, sister, did you ever go to a traveling menagerie, or did you have the animals sent you for private inspection? Don't be afraid to mix with the world. The Master did not absent himself from any place where duty called for fear of being defiled. Besides, we claim that if the polls, or any other place, is too polluting for Ruth's mother, they are too polluting for Ruth's father. Is the latter so much more temptation-proof against the wiles of bad men and designing women than the former? Sister, this is not meant for you alone, but "the majority of women," good women, who do not recognize duty because their eyes are blinded by tradition and prejudice. At any gathering a fair representation of good men accompanied by their wives will insure order and decency.—ED.]

Mrs. W. J. Wright, Chambersburg, Ind., writes: Seeing that I am attacked by different members of the H. C., I am aroused to write again. I will not keep still and be called a miser or a mere "hewer of wood or a drawer of water." Barring egotism and boasting, I will tell you all that I have a pleasant family of five children and no regrets and none to spare. They all can play the organ and sing but the little 4-year-old girl, and she can sing nearly all the songs the rest sing, and thinks she can play the organ, too, but she can just reach the pedals, and the little thing often says she is playing. My neighbors know that I am a member of the church and attend all I can, and that I do not reach out after the "almighty dollar" to excess, but from necessity, for the comfort of my family. I am not troubled about the second Mrs. Wright, for husband works as hard as I do, and we may make a nearly even race. Mamma lives with us and she is loved, honored and respected by all. No, I am not a big, robust woman, and have not had good health for four years, but am getting better now. Of course I take necessary rest, go with husband to town, church and other places, and we all go to church and Sunday School. Husband leads in singing wherever he goes, having been a teacher, and drills the class for Decoration Day at our house. My two little girls help carry water, and I guess I work as much as Mrs. Adams, but I have no time to make and wear "lace caps" nor any use for the "rocking chair" in the kitchen, if I had the room. I think if the Editor regards the good influence of the H. C. in the great majority of farmers' families she will put a quiet on this foolish controversy. I have two dishcloths, one for dishes and one for pots, pans, etc., and it is washed and hung up to dry, and not one burned every day.

Mrs. Sarah A. Pleas, Dunreith, Indiana, writes: How tastes do differ! One of the solid comforts in my own home has been the large, easy rocker in the kitchen beside a rack of papers and magazines, which were even more attractive to the husband than the dining table. He would drop down when tired, to chat awhile, or to read aloud to me whilst the last finishing touches were being given to the meal. Frequently his coming was announced by "dinner for two," or for "four" if very hungry; and again, "is it half ready, or half not ready?" in a playful allusion to the man who exacted that he should neither have to wait, nor yet should dinner be allowed to wait for him. Said chair is available for a minute's rest when washing or ironing, as well as when preparing vegetables, and when taking up baby for a little recreation for us both. I never appreciated compelling helpless little ones to cry in order to insure needed attention, the more especially as a sweet, good humored child is much more enjoyable than a fretful one. With me, rockers are a fad, and I find most persons select one when left to choose; and that I may not be under the necessity of resting on a dining chair, nor yet monopolize the best seat, I elect to have a goodly number scattered through the house, furnished with cushions in winter and with head rests draped with fresh napery. I am no more fearful of being thought a shirk than of being dishonest, although I do enjoy a good long rock, and a good, long talk, and have almost uninterrupted health, which may be in part attributed to my love for outdoor life. Like most farmers' wives, my household duties, in addition to the care of children, have confined me most of the time in the kitchen, but my John was one of the first to recognize the merits of the sewing machine and the swing churn. Ours was his own make, but worked to perfection. The first washing machine and clothes wringer that I ever saw found their way into my own kitchen, when often the farmer, or a big boy was bending over it, or carrying out the water. With his own hands he dug and cemented a cistern, with sink and drain in the temporary kitchen, that I should not work to disadvantage during the preparation for, and building the new house, which would involve boarding all the hands. Being handy with tools, he was quick to discover needed repairs and add conveniences in and about the house. All these little helps given me afforded diversion from his more arduous labor, and the alacrity with which it was given, with the magnetism of his presence, rendered the most irksome duty a pleasure. Was it any wonder that in return I sought every opportunity to join in doing his chores, riding on the mower, to the postoffice, gathering and basketing fruit, working in the garden, anything, everything that my time and strength and babies permitted? "Many hands make light work," but I greatly prefer the companionship of my loved ones to that of hired help, both indoors and on the farm. Truth to tell, I suspect I was a born "Tomboy," and I enjoyed nothing so much as to have the family all well and in good spirits and "every fellow" enjoy either work or play. We secured this by living hygienically, furnishing all with good literature, attending animal shows, picnics, entertainments, excursions to field and forest (the more frequent and extensive these the better, where they were taught the names of trees, shrubs and flowers, and to collect and study rocks, minerals, shells and curios; to hunt, swim and fish, and to study the habits of animals and insect life), as well as to lend a helping hand in the home, where, from ironing small pieces at first, experience produced one expert, who often voluntarily did the men's shirts with a degree of perfection unequaled by myself. All these little matters go to the making of "The Life Beautiful."

◆

Youth's Parliament.

Thomas W. Brumback, Rileyville, Virginia, writes: Dear Y. P.: I am a little boy twelve years old. My father is a farmer. I was raised on the farm. I like it very much. I like to read the P. F., and we have been taking it for some years. I like to work about horses. I have a little colt of my own. I like to read the Short Cuts.

Florie Reese, Idaho Falls, Idaho, writes: Dear Mrs. Melville: Will you permit another stranger to join your Golden Rule Band of Mercy? I am twelve years old. My mamma takes the P. F. and says she cannot get along without it. I have two brothers and one sister. I have two large cats for my pets; they are brothers. One is yellow, the other black. We call them Buffie and Ebbie, because of their color. We moved from Iowa to Colorado. We took all of our horses and everything in a car. They brought my cats; they were then three years old. Then we moved from Colorado to Idaho, and they are now six years old. The buff one will take a chair and shake hands. The black one is the prettier. They weigh 12½ pounds apiece. We have a dog, whose name is Pedro. We call him a Mexican. With my promise to be kind to all living creatures and protect them, I hope you will receive me, and if other juniors would like to hear from my country I will write again.

[You are most welcome, dear, and we shall be glad to hear from you often. We want to heartily commend your family for taking the pets, especially the cats, along each time. It is a terrible sin to leave these household pets to starvation and loneliness. Take them if possible; if not, give them a merciful death before they see that the old home is being broken up. We have had cats that seemed to suffer everything when they realized that we were moving. One little fellow endured it until nearly everything was carried out, then he marched out and seemed determined to go with that load, while his mate forlornly went into the house and preempted a pile of carpet. After dark we carried them to their new home and there was no further trouble. But once in a while a cat is wild and don't understand. In that case death is the greatest kindness. Once we moved a cat to another part of town. Presently he was missing. We went back to the old house and there the poor fellow lay curled up in the empty kitchen in the spot that had once been under the stove. It was a pathetic picture.—ED.]

Elizabeth Jameson, Glasgow Jct., Ky., writes: Dear Mrs. Melville: I will now attempt to write a few lines to the Y. P. My papa takes the P. F., and we like it very much. I like to read the H. C. and Y. P. I was fourteen years old the 27th of February. I live in the country, about one mile and a half from Glasgow Jct. I have one sister older and one sister and one brother younger than myself. I also have four dear little brothers dead. My teacher's name is Miss Letha Renfro. How many of the children that write for this page like to go to school? I do for one. I will close by asking the P. F. children a question: What is the shortest verse in the Bible and where found?

Gerald D. Williams, Utahville, Pa., writes: Dear Y. P.: I am a little boy seven years old. I have a pet rabbit. I have two sisters and one brother older than myself. I am the baby of four children. I catch little snow birds with a screen and string; I look at them and let them go again. It is fun to see my little rabbit eating. This is my first little letter. I hope it will escape waste basket.

Lizzie Murray, Reno, Nev., writes: Dear Mrs. Melville: We take the P. F. at our home and we like it very much. I am interested in the H. C., and like the little stories that appear in it. I live on a ranch about two miles west of Reno, and would not live anywhere else but on a ranch. I would like very much to correspond with some ranch girl of about 18 or 19 that lives in the Eastern or Southern States.

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Topic No. 575, June 6. — *Has the Manure Spreader Paid You on Your Farm for its Cost Over the Old Method of Hand Spreading? Can You Use it Profitably on Hilly Land?*

Topic No. 576, June 13.—*Where a Farm Can Only Afford to Have One Wagon Should it be a Low-Down One or Not?*

Topic No. 577, June 20. — *Have You Ever Grown Irish Potatoes Under Straw? If so Tell us How You Succeeded and How You Planted Them and When?*

Topic No. 578, June 27. — *Experience in Cheese Making on the Farm. How do You Make and Cure and Keep it, and What Kind of Rennet do You Use?*

Topic No. 579, July 4.—*On What Crop Does the Farmyard Manure Pay You Best, and How do You Manage it?*

Topic No. 573. May 23.—Give Your Experience With Portable Fruit Evaporators, and Tell How You Keep Worms Out of the Dried Fruit

H. L. Reynolds, Dayton, Tenn.—Our experience with portable fruit evaporators began in 1884, when, coming to Tennessee, we were surprised to see the great waste of summer fruit, and concluded that an evaporator would be the way to save it, as winter apples are scarce and costly. Peaches were plentiful and could be had at low prices compared to those in Indiana and Ohio. Hundreds of bushels of wild blackberries could be had for ten cents a gallon, delivered. We bought one called the Domestic, about two feet wide and four feet high and six feet long, built by a company in Chattanooga, Tenn. It was well made and nice enough to be considered ornamental. It was fitted with a small wood stove at one end, the heat passing through to the other end and out at the upper corner. There were 30 movable trays about two feet square, with wire bottom. Apples, peeled and sliced would dry in a few hours as nice as any from California. Capacity about one bushel of green fruit per hour. Peaches were evaporated, peeled and unpeeled, but more time was needed with the unpeeled. Blackberries dried so successfully that we could see no difference between them and the best canned ones. My wife and her sister ran it with success, and as it was in the house it ran regardless of weather, and there was no inconvenience from the heat. Sometimes it was set on the porch and sometimes out under a tree. When not in use for evaporating some cooking could be done on the stove connected with it, and being on castors, it was easily moved. Sweet potatoes dry easily and can be saved in this way if they start to decay. Tomatoes are so watery that little was left when dried. Pumpkins dry easily, and beef also can be dried in the machine. One year when we had our evaporator on the mountain, where we had fruit and spent the summer, I bought for home one called the Victor, made in Cincinnati. It was a steam drier, made of heavy tin, and the centre part was about the size of the top of a cook stove, hollow and filled with water. The steam passed out two wings on each side. It did good work when managed right, and as steam heat made it impossible to burn fruit it did very well when there was a small amount of fruit to use. It was in the way when cooking dinner and it was very hot work to attend to it, placing it off and on the stove by hand. We built a brick furnace outside, where it was cooler, and did much better. We would not be without a portable evaporator, for while canned fruit is good, it is more trouble to work with and to move.

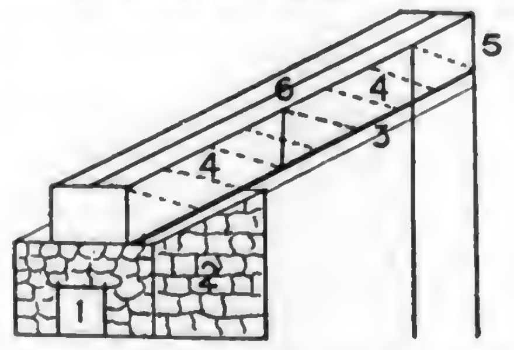
Mollie Read, Carrollton, Md. — A friend gave us a steam dryer last year, about two feet long and one and a half feet wide. Our cook stove being large, we put it on one side and still do our cooking at same time, or we can use it in the oven by leaving the door open. Apples dry in a day and we dry two lots of corn in a day. We have another device for drying. In the summer kitchen the stove is in one corner of the room. Father nailed a strip to the wall behind the stove and about seven feet from the floor, and made a sort of swing from the ceiling opposite and about four feet from the wall. He then made two frames the length of an ordinary lath and about two feet wide. Laths were nailed close enough to prevent fruit falling through. We fill these frames and place them in position above the stove, where it dries in a few days. We have found this far better than the old way of drying fruit out of doors. When the fruit is dry we put it in tight paper sacks and draw another paper sack over the mouth of the first, tie tightly and hang up in the summer kitchen, then it never gets mouldy nor wormy.

Mrs. Maria Muller, Cardiff, Ala. — Our portable fruit evaporator has eight trays in a wooden frame, one above the other, supported on zinc foundation. Trays are 12x18 inches, of galvanized wire netting, with wooden edges, and a knob in the front for handling. It is placed on a cook stove, and the trays can be changed about as the heat requires. Here in the Sunny South I spread fruit on trays on a nearly flat porch roof, and take them in at night, and they dry well in a day or two. I put the fruit in sacks and hang in a dry, shady place till the press of the season is over. The evaporator comes in use in the late fall, and in a rainy spell to finish off the half dried fruit, and to help me keep the fruit free from worms. Once or twice during hot weather I take down the fruit and heat it well on the evaporator. In late fall, at last heating, I place an old tin lid containing sulphur on the hot stove under the evaporator and let the fumes penetrate the fruit. [Better leave the sulphur out for the healthfulness of the food. —ED.] When cool I pack the fruit in freshly washed sacks or paper lined boxes, and have not been troubled with worms. If any appeared I would heat the fruit over again. The evaporator stands in the kitchen the year around and is of use in many other ways.

I. G. Miles, Berwindale, Pa.—Not having a regular evaporator, we put fruit in trays of wire netting and hang over the kitchen stove. For berries we put paper under them. Large lots can be dried in a dry house with a stove. We take the fruit down and put in pans in the oven and let it get hot and then put in paper sacks and tie tightly, and have no trouble with worms.

S. A. Kintner, Ney, O. — The best and cheapest portable evaporator is a box or house made of matched hard-wood or flooring—not pine. Mine is two feet four inches wide by three feet long and four feet high, with side boards standing on end. It takes twenty pieces 1x1½-inch stuff three feet long. Matched lumber four feet long, enough for two sides each three feet wide. Drive together tight and square. Now nail on ten of the 1x1½-inch pieces spaced equally for the trays to slide on. Make the other side on same plan with ten slats spaced equally. Make back same way, but with five slats, one to every alternate side slat and not to come to the edges by 2 inches on each side. Thus the back is two feet four inches and slats two feet long. Now nail back to sides and cover from front side on top with matched lumber two feet of top, leaving one foot open, with wire door screen nailed over opening for draft, and to keep insects out. Make door of same matched stuff full size of front, hinge and put latch on it. Make it a little shorter, say two inches, to allow a cross-piece on below to hold the box solid, and with five slats on it same as the back, only at next tray above the back one. These are to go at ends of the trays just above the side slats. Trays are made two inches shorter than the inside of the box, and one goes to the front end and the next one above it to back end so that heat goes back and forth through. Trays are made of one by two inch pieces with sides on edge and ends flat and with one piece in the middle. Make bottoms of trays of slats one by one-quarter inch long way, and nail an inch square piece at ends to make it as high as sides. Use no pine lumber. Build a brick wall about three feet high and four by five and a half feet square, with door in front, set your dryer over it on old wagon tires or close it with sheet-iron, and put a small box stove under it with pipe running up behind it. Or for cheapness, build a sod wall for the dryer. This house has a capacity of several bushels of apples, and takes very little fire. The house may be covered with sheet-iron. To keep worms out, we put them in the oven and heat well and sack them while hot, in paper sacks, and tie securely.

G. W. Stickley, Strasburg, Va.—I find the following better than any I have ever used. Nos. 1 and 2 are the masonwork in which the stove is placed. Pipe is carried all around the stove and into the passage, No. 3, to carry off the smoke. The bottom of this passage is ceiled with boards and plastered on top of them and the top is sheet-iron. No. 4 shows the interior part with the doors open. The racks to set the dryers on are also shown. No. 5 is a door to regulate the ventilation. No. 6 is a tin roof. The dryers are made with wooden frame covered with wire netting for bottoms. For keeping out worms I make a trough five or six feet long and a foot or more wide, and put a wire screen bottom in it so that the worms sift through and then sun dry the fruit thoroughly.



E. H. Mish, Inwood, W. Va.—We have an evaporator which we made by enlarging an old store box, and it is a success. It is two by three and a half feet by six feet high. For a door we use boards nailed together the right size and held by a nail. We lined it around the bottom with slate roofing, and put slats on each side to hold the trays made of galvanized wire cloth of quarter-inch mesh. They are made so as to slide in and out easily. We cut fruit enough at night to run all day. Peaches are cut in halves and apples into sixteenths. It takes peaches three days to dry well and apples twelve hours. Corn takes about twelve hours. We start a fire early in the morning and fill with fruit, and one person attends to it to keep the fruit turned, etc. We use a box stove to heat it with a pipe with elbow to run out under the trays. In the spring we put the fruit in large pans and heat it in an oven to keep the worms from it, and when it is cool we put it in a barrel and cover with screen of wire to ventilate and keep mice out.

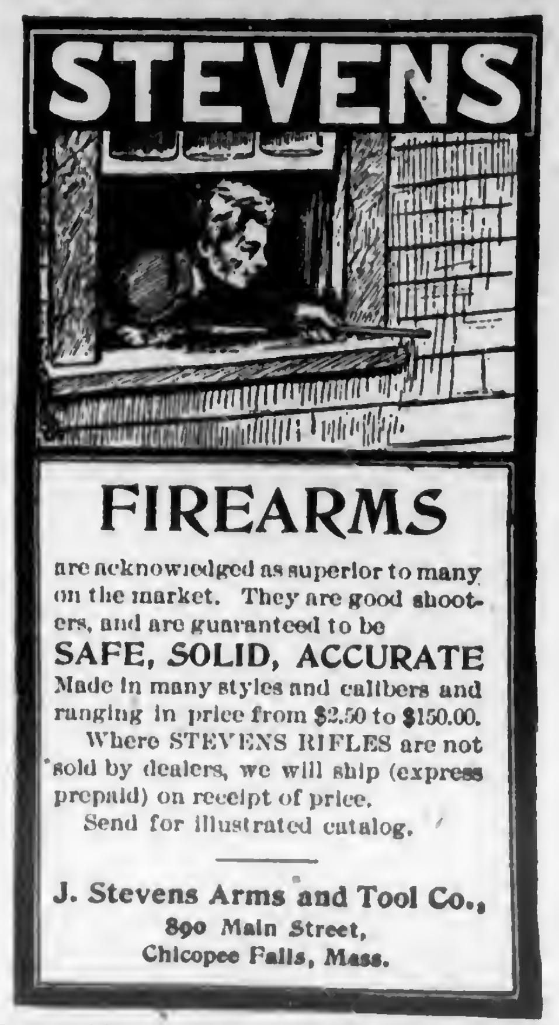
SUMMARY.

Our friends have given some good plans for home-made dryers. There are a number of patented drying machines, all of which do the work very well and more rapidly than any of our correspondents have stated. We have dried sliced sweet potatoes in less than an hour, dry enough to pulverize, and these pulverized sweet potatoes are very nice for making pies and puddings. If someone in a good sweet potato section would take up this in a commercial way and pack the pulverized potatoes in handsome packages like corn starch is put up, we believe a good trade could be made of the article. Now the easiest way we have ever tried to dry fruit without fire is to use the ordinary hotbed sashes. Years ago, having a low and handy and nearly flat tin roof sloping to the south, we placed on it a frame similar to the one we use with a hotbed. The ridges in the tin roof held it up an inch and allowed the air to enter, and they also kept the trays slightly elevated. After the trays of fruit were in, the sashes were put on and closed except an inch at the top to allow a draft through. Mosquito netting placed over this opening kept the flies out. In the summer sun and on that tin roof the heat was enough to dry fruit thoroughly between sunrise and sundown, and we never saw a fire-heated evaporator that beat it. Anyone who has some hotbed sashes can run such a frame even if they have not the roof handy, and it beats the open sunshine a long ways. Now as to keeping worms out of the fruit, if it is dried in a fire-heated evaporator and at once put into stout paper sacks we cannot see that there can be any danger from worms. Or it may be packed down tightly in boxes lined with heavy paper, and if packed tight like the California fruit we do not think there will be any danger from worms. Sun dried fruit that has been exposed to the flies should be well heated up in the spring and packed down while hot in paper lined boxes and well and tightly covered.

Best Results in feeding for milk are obtained by adding some BUFFALO Gluten Feed to balance the ration. Sample and booklet "Feed Your Stock for Best Results." Sent free. Write to-day. Address Department G THE GLUCOSE SUGAR REFINING CO., The Rookery, Chicago, Ill.

WRITE FOR FREE CATALOG On Rumely Reargeared Traction Engines and new Rumley Separators. Full of Thresherman's Logic. M. RUMELY CO., LA PORTE, IND.

Short Weights Make Short Purses "I cannot afford to be without a scale any longer," wrote an Osgood buyer. Can you? Our prices and terms are very reasonable for high grade scales. Free Catalogue. Osgood Scale Co., 127 Central St., Binghamton, N.Y.


STEVENS FIREARMS are acknowledged as superior to many on the market. They are good shooters, and are guaranteed to be SAFE, SOLID, ACCURATE Made in many styles and calibers and ranging in price from $2.50 to $150.00. Where STEVENS RIFLES are not sold by dealers, we will ship (express prepaid) on receipt of price. Send for illustrated catalog. J. Stevens Arms and Tool Co., 890 Main Street, Chicopee Falls, Mass.

SWAN'S Standard ROOFING is not like others—it is better. It is Fire, Wind and Water-Proof, being a perfect roof in every way and at the same time has the advantage of being low in price. Fits the steepest or flattest roofs. Anybody can lay it. A knife and hammer are all the tools necessary. Saves you money on either new or old roofing. Sample and Circulars free. THE A. P. SWAN CO., 115 Nassau St., NEW YORK.

ROUND SILO. The "PHILADELPHIA." The only Perfect continuous open front Silo made. See Open Top Patent Roof. Ask for catalogue. E. F. SCHLICHTER, 321 Vine St., Philadelphia, Pa. Also made in the West by the DUPLEX MFG. CO., South Superior, Wisconsin

WROUGHT IRON PIPE Good condition, used short time only; new threads and couplings; for Steam, Gas or Water; sizes from ⅜ to 12 inch diameter. Our price per foot on ⅜ inch is 3c; on 1 inch 3½c. Write for free catalogue No. 224 CHICAGO HOUSE WRECKING CO., W. 35th and Iron Sts., CHICAGO.

Ensilage Cutters "They Throw and Blow." Pneumatic. "Silo Fillers." Blowers. These machines cut and elevate with the same wheel at the same time. This wheel has paddles which throw and fans which blow. Without the fans the paddles would throw the ensilage 15 feet high. A light blast of air in addition will blow it to any height. No chains, belts or cogs to slip and waste power. A two-horse tread power will cut and elevate 4 tons per hour, a 10 h. p. engine 20 tons per hour. The easiest running and safest cutters and blowers made. Also cutters and carriers, shredders, silos, engines, horse powers, saw machines, etc. Send for catalogues. HARDER MFG. CO., COBLESKILL, N.Y.

ALL LIVE STOCK FLINTKOTE ROOFING WRITE US 76 INDIA ST BOSTON

THE FAIRBANKS Gas and Gasoline Engines are most satisfactory. At little cost they develop great energy and just exactly meet a score of farm necessities. Nothing like them for churning, sawing, grinding, pumping, shop work etc. 1 to 10 h. p. in Verticals, 3 h. p. up in Horizontals. Either stationary or mounted ready to travel to the varied farm duties.

No Engineer Required to operate them. You can do it yourself with perfect safety and save that expense. That reduces cost of running it to but a few cents per hour for the heaviest duty the farmer has. Then they are ever ready and dependable. Full power developed instantly. You should investigate. Write us to send you free our Gas and Gasoline Engine book and learn more about them. *Don't let the price frighten you; they are not expensive.* THE FAIRBANKS CO., NEW YORK. Baltimore, Md., New Orleans, La., Buffalo, N.Y., Albany, N.Y. Philadelphia, Pa., Pittsburg, Pa., Boston, Mass.

Chats About Advertisers.

Hog Raising. — It would be well for those interested in hog raising to read the advertisement of G. S. Benjamin, of Portland, Michigan, which appears in the breeders' column of this issue.

In 1845 and Now. — The inside front cover of the Deering "Golden Era" catalogue for 1903 contains a story without words. A section of the Chicago River as it was in 1845 is pictured. It shows an Indian wigwam, Indians in canoes and upon the banks of the river; there are no signs of civilization. On the same page is shown the river at the same point, as it is today, full of ships and lined with docks. The banks contain the great Deering works, 85 acres of buildings and a veritable hive of industry. A marvelous change, and one that has taken place in less than fifty years.

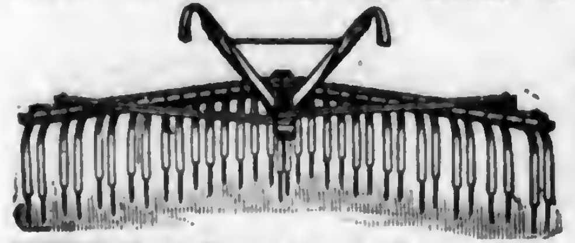
A Good Tool.—Farmer Brighton, of Fairfield, Iowa, has entered upon a new advertising campaign in this paper. It is apparent that in his combination tool—the Swine V to prevent hogs from rooting, Cattle Dehorner and Stock Marker—Farmer B. has something which other farmers want and buy liberally, else he could not afford to advertise so regularly. His ad. has come to be a familiar face. It is just a little ad. headed "No Humbug," and accompanied by a cut showing the tool and a hog's snout operated upon to show how it works. Look up this ad. if you keep hogs or have occasion to mark or dehorn.

The New Rye Thresher, Cleaner and Binder.—In many sections of this country, and particularly adjacent to the large cities, rye is extensively grown because of the active demand and good prices for the long straw. The introduction of the Champion Rye Thresher, Cleaner and Binder makes it possible to thresh the rye, thereby saving all the grain, and at the same time preserving the straw unbroken, ready for market. This excellent machine is manufactured by the Harder Mfg. Co., of Cobleskill, N. Y., and is advertised in our paper. While it secures the primary object in separating the grain from the straw and preserves and binds the straw in most convenient and neat bundles, it at the same time winnows and cleans the grain and delivers it to the measure in as good condition as though it had been passed through a fanning mill. Write for illustrated catalogue fully describing this machine, as well as a full line of other threshers, cleaners, etc., and state that you saw this notice in the P. F.

E. C. Brown & Co. Sprayers. — The spraying machinery manufactured by E. C. Brown & Co., of Rochester, N. Y., does not propose to take a back seat. Their catalogue No. 11, is a handsome book, well illustrated, describing a line of sprayers which meet every requirement of the small or large operator. Advertisements of some of these have appeared in our columns. The line includes their now celebrated Auto-Spray, hand pumps, barrel pumps, orchard mounted tank pumps, one horse four row and two horse five row potato sprayers, one and two horse vineyard rigs, etc. One distinguishing feature of these Brown sprayers which operators thoroughly appreciate is the exposing of valves and the placing of all the pump mechanism outside the barrel or tank where it is of easy access. Then, too, the working parts are made entirely of brass which makes them secure against corrosion. In efficiency and adaptability they take rank with the best sprayers on the market. The catalogue will be mailed free to all who mention P. F.

Points on Cultivation. — The farmer who keeps abreast of the times—whose farm implements are up-to-date—is the successful one in the competition for greater production at less cost. In this connection the farmer's attention is called to the new book of the Hallock Weeder and Cultivator Co., of York, Pa., manufacturers of the famous Hallock Quadruple Cultivator and Weeder—the most practical and profitable machine ever invented for both weeding and cultivating all kinds of crops. In this book is demonstrated the superiority of the flat tooth cultivators over the round. In words so plain and illustrations so clear it proves beyond a doubt that the Hallock Weeder and Cultivator is the greatest labor and money saving agricultural implement invented in recent years. The total destruction of all weed seeds, information of the utmost value to the farmer, is treated of at some length. Another interesting chapter tells how thorough tillage can be obtained and moisture held in the ground, thus resulting in better crops with less labor. A page is also devoted to shallow cultivation, which is advocated by all the leading agriculturists. It is free for the asking if you mention the P. F. when writing for it.

An Excellent Weeder.—A weeder that takes, if not first, certainly a very high rank with the farmer, is the "Keystone Adjustable." The adjustable feature, which permits it to be used at any extension between 30 inches and 7½ feet, makes it very valuable—more so than a weeder without this feature, inasmuch as the different adjustments or widths permit it to be used for more varied purposes, such as fining and leveling unplanted areas or dragging and loosening the surfaces of grain fields, meadows, etc., as well as between rows not only as a weed exterminator, but as a shallow cultivator. The absence of shafts makes the weeder less cumbersome and enables the operator to work close to the fence. It has a wheel at its front which secures steady and smooth motion, which wheel, by a very simple device, can be made stationary or swivel. As heretofore, round or flat teeth are supplied on this weeder. For the information of our readers, we would say that the manufacturers of the "Keystone Adjustable" have been licensed by the Hallock Weeder Co. to use a flat tooth covered by their patent, 600,782. If interested in weeders, write the Keystone Farm Machine Co., 1548 N. Beaver St., York, Pa., for a little booklet they are distributing. Kindly mention the P. F. when writing.



Our Barter Column.

Advertisements will be received for this column from our yearly subscribers only. Only advertisements of farms for sale, articles for exchange, help wanted, positions wanted, etc., will be received. Charge 1 cent per word for each insertion. No advertisements of less than 25 words or more than 10 agate lines will be admitted to the column. This column will appear each alternate week.

☞**Special Notice.** The farms advertised in this column must be the farm of the advertiser, and not placed in his hands by another person for sale or exchange. No advertisements from Real Estate Agents will be accepted for this column; they must go in our regular advertising columns at regular rates.

Wanted. The address of Mr. J. W. Page, Market Gardener. Had brooder to sell and S.C.W. eggs. MRS. J. ELMER CLARK, Waddle, Pa.

Farm for Sale. 58 acres, 28 in cultivation, New two-story house, other necessary buildings. 4½ miles from Thayer, in Oregon Co., Mo. A bargain. Address H. ARNDT, Hardy, Ark.

Wanted. Good, single hand by the month, to do general farm work, at once. Board and good home in family. State what wages you want. J. LESHER, Guilford Springs, Pa.

For Sale, a good one-man folding sawing machine good as new and only used three months; cost $18 will sell for $12—have no timber or would not sell. Address, BURTON B. CHASE, Dover, Del.

Farm For Sale. 47 acres near Harriman, Tennessee. Well improved. Good buildings. Plenty of fruit. Good water. For further particulars address J. B., Box 97, Harriman, Tennessee.

152-Acre Farm for Sale. Good improvements; lots of fruit. Wheat and oats main crop. 2½ miles west of Perry the county seat. Price $8200.00 or $7400.00 August 1st. CHAS. BOYLAN, Perry, Okla.

Sweet Potato Plants. Leading varieties, including the splendid New Vineless. Would exchange at rate of $2.50 per thousand for Black Spanish fowls, pheasants, wild geese, wild turkeys or eggs. T. G. BROSIUS, Tiffin, Ohio.

Chrysanthemums—3 dozen varieties, prize winners. Labeled and well rooted plants, 35 cents a dozen. Will exchange for hose, towels, lawn, handkerchiefs, etc., etc., new. Send 25 cents worth of articles and 12 cents postage for each dozen wanted. MISS ROXIE SHEETS, Lexington, N. C.

Farm for Sale, near Asheville, in "Land of the Sky;" 650 acres, about 150 cleared. New grist and saw mill, new house; fronts on French Broad River; R. R. station on place. Fine apple country; summer resort district. Price, $15,000, stock and implements included. CHAS. F. BALDWIN, Blantyre, N. C.

Farm of 49 acres for sale or rent in best trucking section of Maryland; two-story house 5 rooms and outbuildings; abundance of fruit; apples, pears, peaches, plums, cherries, grapes. 3 miles from incorporated town, both church and school in sight. Price, $700. If rented, $60 for 1903; terms easy. For particulars address LOUIS M. CARR, Williamsburg, Maryland.

NITRATE OF SODA FOR ALL FRUITS. Send your name on post card for our Free Bulletin. WILLIAM S. MYERS, DIRECTOR, 12 John St., New York City.

LEN. H. ADAMS. COW PEAS FOR SALE. 2,000 bushels cow peas of all varieties. Write for samples and prices. References: Editor this paper and Banks of Raleigh, North Carolina. L. H. ADAMS, Raleigh, N. C.

WELL DRILLING Machines Over 70 sizes and styles, for drilling either deep or shallow wells in any kind of soil or rock. Mounted on wheels or on sills. With engines or horse powers. Strong, simple and durable. Any mechanic can operate them easily. Send for catalog. WILLIAMS BROS., Ithaca, N. Y.

Scientific Grinding Mills grind corn the ear or in grain in any form. Strong, exact, reliable. Catalog Q mailed free. FOOS MFG. CO., Springfield, Ohio.

SALZER'S Seeds Never fail. Send 10c. for catalog and rare seed samples worth $10 to any farmer. JOHN A. SALZER SEED CO., La Crosse, Wis.

Tuttle's American Condition Powders A specific for impure blood and all diseases arising therefrom. DR. S. A. TUTTLE, 28 Beverly St., Boston, Mass.

Registered P. China, Berkshires & C. Whites, 2 wks to 8 mo.; mated; not akin; service Boars; Bred Sows. Write for prices and description. We refund the money and have them returned if not satisfied. Hamilton & Co., Ercildoun, Chester Co., Pa.

IT MAKES COWS BREED. BOOK FREE. MOORE BROS. Veterinary Surgeons. ALBANY, NEW YORK.

"SAVE-THE-HORSE" TRADE MARK SPAVIN CURE POSITIVELY AND PERMANENTLY CURES Bone and Bog Spavin, Ringbone, (except low Ringbone) Curb, Thoroughpin, Splint, Capped Hock, Shoe Boil, Wind Puff, Weak and Sprained Tendons and all Lameness.

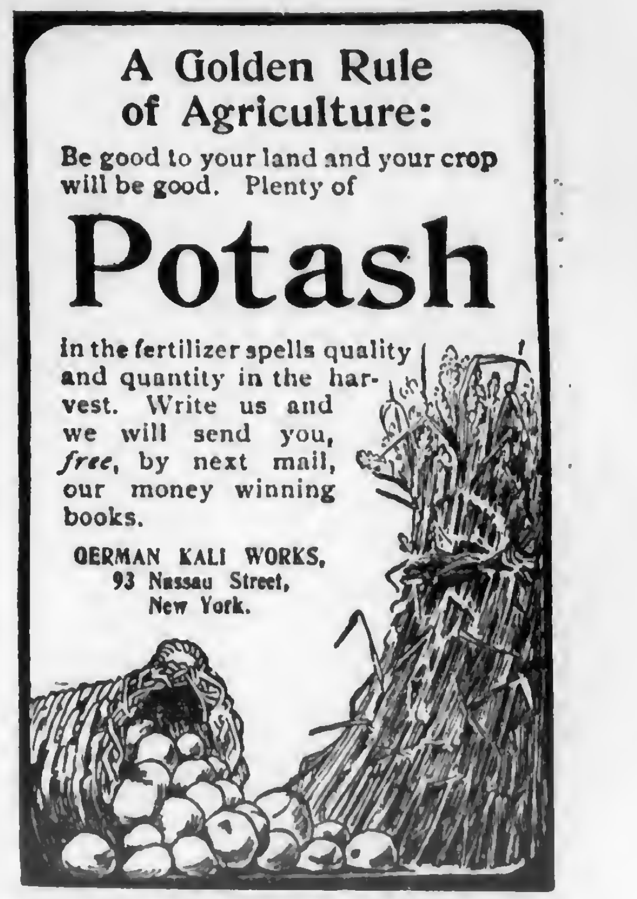
FROM A REPUTABLE AND NOTED TRAINER. Glenville Driving Park, Cleveland, Ohio. For the inclosed $5 please send me one more bottle of "Save-the Horse." IT IS DOING GREAT WORK. MILLARD F. SANDERS.

Hartland, Mich. Find inclosed money order for $5, for which send me another bottle of "Save-the-Horse" spavin cure, as it has done all you claim for it for me. With the bottle I bought of you I took off a curb, spavin and side bone on a three year-old mare that other spavin cures refused to help in the least. I consider your spavin cure the best on the market. E. M. PARSHALL.

Edgewater, N. J. Inclosed check for $5, for which you will kindly send me by Wells-Fargo Express one bottle of "Save-the-Horse" soon as possible. The horse I have been treating with "Save-the-Horse" went sound and I sold him, and the last I heard from this horse he was still going sound and working every day, and I think he will stay sound. The bottle I am ordering now I will use on another horse that has a pair of spavins and a curb; he walks on his toes, but I think "Save-the-Horse" will bring him around so that he will walk all right. OTTO MEYER.

The fire iron is most uncertain; blistering is less effective than the fire iron, and both necessitate laying up the horse from four weeks to two months and longer. Arsenic, mercurial and poisonous compounds produce irreparable injury. "Save-the-Horse" eliminates all these factors. Horses can be worked continuously. It can be applied at any time, anywhere, any place, and in all conditions and extremes of weather—hot or cold. And no matter what the age, condition or development of the case or previous failures in treating, the concentrated, penetrating, absorbing power of this remedy is unfailing. "Save-the-Horse" cures without scar, blemish or loss of hair. Contains no arsenic, corrosive sublimate or other form of mercury or any ingredient that can injure the horse.

$5 PER BOTTLE. Written guarantee with every bottle. Constructed solely to satisfy and protect you fully. Need of second bottle is almost improbable, except in rarest cases. $5 per bottle at all druggists and dealers, or sent direct, express prepaid, by the manufacturers. TROY CHEMICAL CO., TROY, N. Y.


A Golden Rule of Agriculture: Be good to your land and your crop will be good. Plenty of Potash in the fertilizer spells quality and quantity in the harvest. Write us and we will send you, *free*, by next mail, our money winning books. GERMAN KALI WORKS, 93 Nassau Street, New York.

IRON AGE Book Free describing one and two horse cultivators, Potato Planters, Wheel Hoes, Seed Drills, etc. Bateman Mfg. Co., Box 101, Grenloch, N. J.

THRESHERS and Threshing Engines, Saw Mills, Machinery and full line of Ag. Implements. Free catalogue. A. B. Farquhar Co., L't'd., York, Pa.

GEM FULL CIRCLE STEEL BALER Lightest, Strongest, Cheapest. GEO. ERTEL CO., QUINCY, ILL.

STOCKMENS SUPPLIES Sheep Dips, Tanks, Worm Cures, Ear Marks, Punches, Tattoo Markers, Shearing Machines, Shears, Sheep Marking Paint, Lamb Feeders, Lice Paint, Poultry Supplies, Veterinary Remedies, etc. Write for Catalogue AT. F. S. BURCH & CO., 144 Illinois St., CHICAGO.

GET A GOOD WIND MILL Don't buy a poor wind mill. Don't pay a double price. Send direct to our factory for catalogue of the Freeman Steel Wind Mills and four post angle steel towers. A complete line of pumping and power mills of the highest grade at extremely low prices. We can save you money on a *good* article. S. Freeman & Sons Mfg. Co., 106 Hamilton St., Racine, Wis. A complete line of Feed and Ensilage Cutters, Corn Shellers, Wood Saws, etc., at low prices.

A Great Buggy Bargain HOW YOU CAN GET IT. Cut out this advertisement and send it to us with $5 at once and we will send you a complete description and large colored illustration of this SPECIAL ECONOMY IDEAL BUGGY which we will make to your order, also description of our *Economy Storm Front* and *Economy Dust Hood,* illustrated below. Your $5 will reserve you one of these Buggies, together with Storm Front and Dust Hood. Until June 7, for $42.50 When you get our catalogue and circulars if you are not satisfied that it is the buggy you want, we will return the $5 to you. If satisfactory, when you are ready for buggy send us the balance, $37.50 and shipping instructions. 10 Days' Free Trial. After the buggy reaches you try it ten days, and if not absolutely satisfied with your purchase, return it to us and we will send back every dollar of your money. We are making this wonderful offer for advertising purposes. Have only 1000 Jobs to sell at these prices. The regular price of this buggy is $60, and regular price of Dust Hood and Storm Front, $5.25. *Offer will close promptly JUNE 7th,* and price advance to regular price. You take no chance in sending us the $5. We are responsible, or the editor of this paper would not publish the advertisement. Read fully the description given herewith and write at once. *The Storm Front* the finest thing ever invented for rough weather. *Dust Hood* protects buggy top when down, giving neat appearance to vehicle. Storm front and dust hood are adjustable and can be used on any other buggy.

Combination Offer $42.50 Regular Price $65.25

CAUTION: We are manufacturers, making only Buggies and Harness. Do not confuse us with general mail order houses.

General Description BODY—Extra well made, poplar panels, ash sills, screwed, glued and plugged, 24 inches wide, 54 inches long. Can change the width of body to 19, 20 or 22 inches wide, or Corning style instead of the piano box, if wanted. WHEELS—Sarven patent, 16 spokes, ⅞-inch, 38 and 42 inches high with ⅞-in. steel tires, bolted between each spoke, screws in rims. Wheels can be 40 and 44 inches high, 36 and 40 or 42 and 46 inches high, if preferred, without extra charge. 1 inch wheels 50 cents extra. AXLES—Long distance, dust proof, finest quality steel, with double hickory reaches full ironed and braced. Rear king bolt fifth wheel. SPRINGS—Tempered in oil, three and four plate, graded for easy riding and strength. Bailey body loops are clipped on. Wooden spring bar in place of Bailey body loops furnished, when wanted. TOP—Leather quarters and leather back stays. Heavy, leather grained, water-proof rubber roof, back curtain and side curtains. Back curtain lined. Head-lining is dark green wool cloth. Three bow top regular, four bow top furnished when wanted. Upholstering—In the seat and back is dark green imported, all wool, 16-oz. broadcloth. Whipcord trimming, if preferred. Genuine No. 1 leather trimming $1 extra. PAINTING—Regular 16 coat oil and lead priming. Body plain black. Gear any color, nicely striped. Body can be striped, if wanted. This buggy is furnished complete with all attachments, including storm front, as shown in this advertisement, which closes up the entire front of the buggy, also with a dust hood, to prevent any dirt or dust accumulating in the top when down. Finest quality of hickory shafts with 36-inch shaft leathers, double braced. Brussels carpet in the bottom with the insides of panels carpeted, water-proof boot on the back of body. Quick shifting shaft couplings, leather dash.

Any reasonable changes made in the finish without extra charge.

Economy Storm Front Economy Dust Hood.

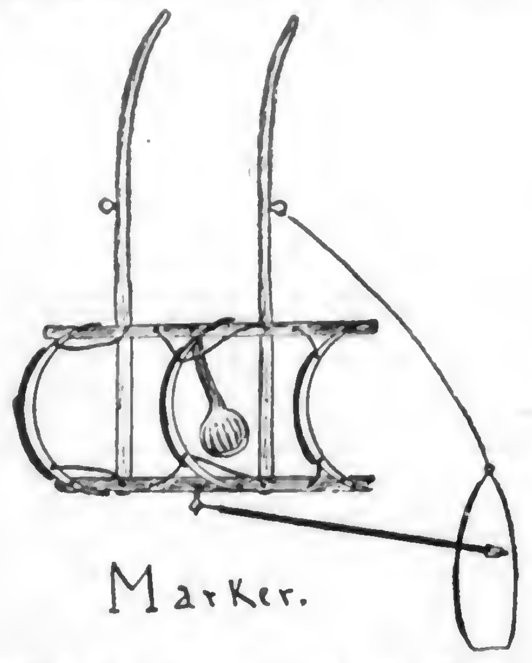
Many are making reservations for these buggies. Why not You? Will weigh about 325 lbs. Remember this Offer Closes JUNE 7, 1903. ECONOMY BUGGY CO., Box A 55, CINCINNATI, OHIO.

SHORT CUTS.

BY PRACTICAL FARMER SUBS.

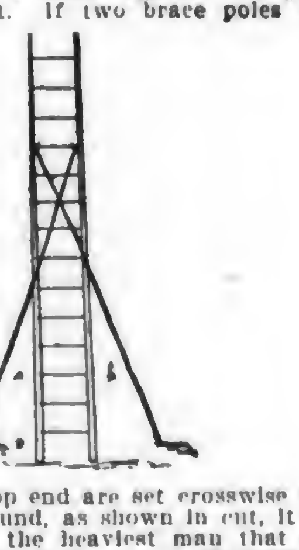
All other trades have resorted to "Short Cuts." To be successful farmers must resort to them, too. In this column we will publish all actual labor saving short cuts made by the farmer on the farm and the housewife in the home. Write and tell us of any labor saving tool you have made, of any method of management or manner of using implements to save time, labor and money, or increase their efficiency. Even the smallest things may be useful and valuable. Hints and helps in the household are always welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Write on postal cards and make articles short. All errors will be corrected by the editor. Address all communications under this head to T. Greiner, La Salle, N. Y.

A Novel Marker. — The runners have iron soles five-sixteenths or three-eighths thick, 1¾ wide, held by tire bolts countersunk in the iron to hold them on. The half circles are half wagon wheel rims, 1¾x2¼. The frame supports that hold the rims can be 1½x4 bolted on with two ⅝ bolts at each end of rims, and are held by iron braces to support and hold runners in position Can be varied in length according to height of rims as to front or hind wheels; front rims are high enough. The marker pole and marker must be just 10½ feet for a 3½-foot marker.



The pole is made of 1½x3, the marker of 1½ or 2x8 inches wide, about 18 or 20 inches long, with iron strap around it, and oval in shape at front, and hole behind strap to tie rope to drag with, and an iron brace to run from front end of marker back 18 inches on marker pole to hold it solid. Rope fastens on shaft to iron strap with hole in it, or can be fastened to hames on horse. Seat to be made of an old mower seat or anything else preferable and to suit marker. Shafts 2x4 inches, ripped out of 2x10, which is wide enough to make the crook; saw them both out side by side, then reverse one of them, which gives opposite crooks. Timber should be tough. Length of shafts, width apart, straps, etc., can be made at option of builder. The whole machine can be made of a little lighter or heavier material, to suit builder. When built right this makes a splendid machine. Will run over stumps, rocks and trash. Will not slide around and make a wide mark, and runs deeper than a sled marker and is better for cloddy land and is not very expensive. Horse walks in next middle row. Can be made with pole for two horses and mark five rows.
S. B. Scott.
Burgin, Ky.

Safety in Picking Fruit.—Some trees have long projecting limbs with the finest of fruit on, but the limbs are not strong enough to be safe to set a ladder against and go up to pick the fruit. If two brace poles with



short forks at top end are set crosswise with forks under a round, as shown in cut, it will not go down if the heaviest man that ever picked fruit goes up it. J. C. Mossford.
Grove City, Pa.

Sewing Buttons Firmly. — I find the best way I can sew buttons on any garment, and especially on childrens' clothes, to make them stand the most strain without tearing out a piece of the goods, is to place a large pin on the button and sew over it until the thread is run through the holes in the button sufficiently, then draw the pin out and wrap the thread three or four times around thread (between the button and the goods) used in sewing on the button, thereby making a shank to the button.
Willard, Va. Mrs. Howard Middleton.

Comfortable Fruit Canning.—I would like to say to the sister who shuts all the air out of her kitchen while filling fruit cans, to prevent mould forming on top of the fruit, that it is not necessary to punish herself in a hot room while canning. I canned over 200 quarts of fruit last summer with windows and doors open, and stood almost between two open doors while filling my cans, and there is no mould on my fruit. It is unnecessary to stand over the hot stove to dip your fruit in the cans while it is boiling. I carry mine to the kitchen table to fill the cans. I test my cans before filling, by putting water in them, tightening the top and turning bottom side up. If they hold water, all right, I fill with fruit, get out all the air bubble, tighten the top carefully, and there will be no mould nor spoiled fruit.
Mrs. J. A. Kirkman.
Grand View, Tenn.

Chicken Drinking Vessel.—The following is easily made and safe. Take a gallon tin can or pail and cut triangular shaped holes all around it about two inches from the bottom—just high enough that the chicks cannot get into it. Fill it up to the holes with water and you will say it is a success.
Box 582, Indianola, Ia. Jno. Howletts.

To Tighten Bolts. — It is often quite difficult to keep plow bolts, and many other bolts, tight where the articles bolted together are of iron. This trouble may be obviated by using an iron washer and another one of leather just beneath it. The nut can then be drawn very tight, and it will seldom, if ever, slip. Edw. E. Higgins.
Crow Summit, W. Va.

Ventilating the Ice House.—I will undertake to offer one feature about an ice house, incorporated in mine, which with over eight years of use has contributed largely to the preservative qualities of the same. The upright walls are double, being sawdust stuffed. To the outside of inner wall, by studding at proper distances, are attached the outer walls, which latter do not reach fully to the ground. There is thus a continual draft provided for, through the top of roof, which is very efficient in carrying off the warm air. I saw this at the Geneva Experiment Station, thought very well of it and am highly satisfied ever since adopting the feature. Chas. Reynders.
Sheshequin, Pa.

Cement for Rubber or Leather.—A cement said to be good for rubber or leather is made by dissolving one ounce of gutta percha in a pound of chloroform. Clean parts to be cemented and cover each with the solution, and allow to dry for half an hour. Warm each part thoroughly in the flame of an alcohol lamp, or a candle, and press firmly together until dry.
R 4, Utica, O. Mrs. J. A. McFarland.

Best Material for Stencilling.—Lamp black, vinegar and molasses will hold its own and look neater than any oil or turpentine, no matter whether on burlap, cloth or wood, or whether exposed to rain or salt sea water, and easily washed off your hands. If it gets hard when in a hurry, add a little water. Have used it for over 30 years on tens of thousands of such packages.
Norfolk, Va. Wm. F. Wise.

Pig Records.—A short cut in keeping a record of the time sows are due to farrow, is by keeping a pair of scissors at the breeding pen and a note book and pencil in pocket, and when a sow is bred take the scissors and clip the hair, say on top of the neck, and make a note of it in your book, also date. When second one is bred clip in a different place, say top of shoulders, and so on, being sure to make each mark distinct from the others. Two sows bred the same day can be marked the same. If any are re-bred, state so in the note book. After all are proven, get calendar and figure up time of each and change record to better book (I generally carry a cheap note book), giving date of farrowing instead of breeding. By this method we know when to expect pigs, hence can give them proper attention.
Ute, Ia. Chas. E. Riddle.

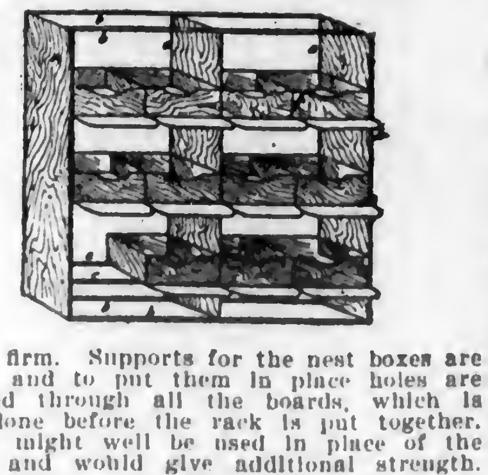
Removing Rusted Burrs.—It is sometimes desirable to remove nuts from bolts, when they are found to be so tight that the bolt will twist in two before the nut turns. Take a cold chisel and cut on the two opposite sides of nut; the cutting expands and the blow tends to loosen the nut, so that in nine cases out of ten the nut is removed before the cutting has destroyed its usefulness.
Galena, Kan. James P. Christy.

Double Use of Milk Pan. — After an ordinary tin milk pan has been used until holes are worn through, a good, serviceable colander can be made as follows: Take a wire 10-penny nail and with a hammer punch the bottom full of holes. Invert the pan and with a file smooth the roughness, and you have a good colander. This can be done in stormy weather and can be used to remove the hulls from beans, and is far better than to pay the grocer 15 cents per package for American hulled beans.
Alma, Mich. O. R. Robertson.

Something Nice for Summer. — Try making a crazy patchwork cushion of wash goods, such as light colored gingham, madras, dimities, lawns or even calicoes, in fact, almost any goods that will wash and is not too dark, using any little scraps of lace, embroidery, insertion or applique over the pieces here and there. White dress goods with open work is nice to place over some plain color such as pink or blue, then work the seams with silkatine and finish with a ruffle of shambra gingham, with white or cream lace gathered on over it. Mrs. J. L. Glenn.
McConnelsville, O.

Hotbed Marker. — A very simple and convenient device for marking the rows for planting seed in a hotbed is made by taking a board 10½ inches wide and a little shorter than the width of the hotbed, so that it will go inside the hotbed easily; six strips the length of the board and about ½ inch thick and ½ or ¾ inch wide, according to the depth you want to plant the seed, are planed to a V edge and nailed lengthwise of the board, so that the V edges shall be 2 inches apart. A good cleat should be nailed about a foot or so from each end of the board, on top, to keep it from splitting. To use, lay it in the hotbed, V edges down, and stand on it so as to press them full depth into the soil. This will make six nice little furrows 2 inches apart and just the right depth for planting the seed in. Then place it so that the first V edge comes 2 inches from the last mark just made, and stand on it while you are planting the first six rows, and so continue until the whole bed is planted. The dimensions, number of rows, distance apart, depth, etc., can, of course, be varied to suit each person's own convenience; those given are what I used in making one for planting seed of Prizetaker and Gibraltar onions in hotbeds for the new onion culture, and it works first-rate. E. S. Webster.
P. O. Box 90, Hutchinson, Kan.

Good Nest Boxes. — The accompanying drawing, adapted from Am. Agriculturist, illustrates an improved arrangement for hens' nests, made as follows: Take three boards, 1 inch thick by 12 inches wide, and of any convenient length. The boards are placed far enough apart to admit of two nests side by side. Strips 2 inches wide and 1 inch thick are nailed across both top and bottom to hold the uprights in place and make the frame firm. Supports for the nest boxes are wires, and to put them in place holes are augered through all the boards, which is best done before the rack is put together. Strips might well be used in place of the wires and would give additional strength. If wire is used, it will prove most satisfactory if kept tight. The nest boxes are made of 1½-inch lumber. They are 11½ inches wide by 12 inches long and 5 inches deep. The bottom is made to project 6 inches, providing a step for the hens to alight on. The space above the boxes would depend partly on the breed of poultry The improved nest boxes have the advantage of being light, easily made and readily cleaned. Sub.



HANDICAPPED.
The man who started to run a race in chains and fetters would be visibly handicapped. No one would expect him to succeed. The man who runs the race of life when his digestive and nutritive organs are diseased is equally handicapped. In the one case his strength is overweighted, in the other it is undermined. Success demands above all else a sound stomach.
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Mistakes, Failures and Successes.

In this department we publish the Mistakes, Failures and Successes of our subscribers. They are equaly instructive and necessary, pointing the way to success. Subscribers are cordially invited to send accounts of efforts they have made which resulted in failure, as well as those which proved successful. Give in a few words your experience of anything connected with farm or household work. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Only helpful communications of value to P. F. readers will be accepted. The head of the column will be considered the position of honor each week. Send all communications to Geo. T Pettit, Oneida, Kan.

Good Tomatoes on Poor Land.—Last spring I had ten acres of very poor land; so poor, in fact, that it would scarcely raise anything. I plowed it well, worked it over with my Acme harrow and drilled fertilizer containing 10 per cent. phosphoric acid and 2 per cent. potash, which with some fish that I used in the hill, cost me $75. The land being so poor, I would have been satisfied had I received enough tomatoes to pay the expenses. However, I sold $286 worth of tomatoes and the ground is matted with clover which I sowed at the last working, and I am sure that this is well worth all I paid out for fertilizer. This is a very small yield of tomatoes for so many acres, I know, but the year before (1901) it was in corn and I received 20 baskets of short corn for my half of the crop. I tell you this so you can see what a hopeless task I had to face.
Federalsburg, Md. John Rosser.

Success With Palms. — Many people have the idea that palms are hard to raise, while exactly the opposite is the case. The root of a palm tends to run down deep, so that deep pots are necessary. An old paint keg with the paint burned out is the best shape. Put in good drainage, then put in good, rich garden soil and give plenty of water whenever the soil in the pot begins to get dry. They can be washed with soapsuds to keep off troublesome insects; in fact, ours are not troubled with anything but the scale louse, and these we take off with a pin point. Sponge off occasionally with sweet milk; it gives them a rich, glossy appearance. Lantoria Borbonica and Fostriana are two fine specimens. We also have a Cycas Revoluta, which is very fine. Then we have a Phoenix Conariensis, which is a very rapid growing species, but we do not like it quite as well as the others. J. O. Shroyer.
Humboldt, Neb.

To Keep Rabbits from Peas.—While living in Missouri we succeeded in keeping rabbits from destroying our garden peas by stretching a white string around them three or four inches from the ground. The rabbits will not cross the string. Chas. Collins.
Albany, Ore.

Two Chances for a Hay Crop. — In the fall of 1901 I sowed 12 acres to timothy, and as there was wheat in an adjoining field I feared the chinch bugs. So the following spring (1902) I sowed one gallon of clover seed to the acre on my timothy field. It was dry and when the wheat was cut the bugs came in, killing all of the timothy, but I will have a fine crop of clover. My land is adapted to clover and I will always sow it with my grass, giving me two chances for a hay crop. W. L. Estes.
Smothersville, Ill.

Success with Fruit Trees.—I began farming on a piece of new land with but 10 acres cleared. As I cleared the land I set out fruit trees until I now have over 800 in bearing. I set from 50 to 100 a year until the above number was reached. For winter apples I have Northern Spy, Baldwin, Ben Davis, Talman Sweet and Hendrick Sweet. Fall apples are Wealthy, King, Harvest, Yellow Transparent, Red Astrachan and Sweet Bough. Have but one tree of early variety, while three-fourths are Spies and Baldwins, which do well in this section. Bartlett, Clapp's Favorite and Kieffer are the pears I have, but do not like the Kieffer. Of plums I have the Lombard, Moore's Arctic and Green gage. My cherries are Montmorency, Ox-Heart, English Sweet and common red sour cherry. Have had plums and cherries for our own use and to sell for 15 years. Apples and pears for our own use and to sell for 12 years. Had about 600 bushels apples last fall with only one-sixth of the trees in bearing. In this section the Northern Spy has to be set 10 to 12 years before it will bear; cherries and plums three to four years.
Spicewood, Pa. Jos. E. Fischler.

Home Hints.—After black stockings are past mending, cut the feet off and sew on machine, putting top of one leg to bottom of the other. Sew enough to make a square as large as wanted, hem and use for a shawl; it is warm and light. Braid strips of black stockings with strips of blue and red calico, sew round or oblong and they make lovely rugs. When washed until thoroughly clean they make nice dish rags, wash cloths and dust rags, also make nice under lining for chair cushions. For ivy poison bathe in strong lye made of wood ashes [Not too strong.—Ed.]. Dry ashes also are good rubbed over the poisoned member. To relieve pain and swelling caused by running a rusty nail in hand or foot, apply a poultice made by stirring common salt in the yolk of an egg until it is thick enough to spread without running. This will prevent lockjaw.
Nashville, Tenn. Mrs. J. C. Miller.

Green or Dry Wood? — We are convinced that the belief held by some to the effect that green wood is a more economical fuel than seasoned or dry wood, is a great mistake. Our experience teaches us that dry wood is the more economical, for the reason that in mild weather one can put just a little wood on the fire and it will burn and give the desired heat, while if the wood be green, one is compelled to put on quite a quantity in order to have any fire at all. Then when the large pile of green wood gets to burning right, it will burn up just about as quick as the seasoned wood, thus very much less of the dry wood will suffice. In other words, green wood forces one to use more than is necessary. With dry wood we can get a fire at once, whereas if it is green we must wait until it seasons. Of course, in using the dry wood we must use judgment and common sense and not "pile it on." J. F. Dosier.
La Grange, N. C.

Axle Grease on Heating Stoves. — Last spring when my heating stoves were taken down for the summer I warmed axle grease and with a flannel cloth gave them a good coating of the grease. They were then set in an out-building where no salt was kept. In the fall when the stoves were brought in for use we rubbed them well with a dry cloth before applying blacking, and the blacking looked better and lasted longer than I ever had it do before, and there was no rust to contend with. I am satisfied that anyone trying this plan will be pleased with the result. Mrs. G. W. McRae.
La Belle, Mo.

Setting Sweet Potatoes. — Give your plants to a child; any bright child over four years of age can do the work. Take a spade and sink it in the centre of the ridge; draw the handle forward and let the child place the roots of the plant in the opening thus made. While the hand of the child is still on the plant withdraw the spade. Now put your foot on the loose soil, pressing it back to its former position. We set ours in this way and always find it a success. One hand with child can do the work of three working in the old way, and there are no tired backs when you get through. W. T. Cutchin, Jr.
Norwood, N. C.

Good Hotbed.—A good and cheap hotbed may be made as follows: Dig a hole 18 inches deep, 4½ feet wide and as long as you wish to make the bed. Line this with boards or brick, placing joists across three feet apart; these must be level with top of wall. Put floor on top of these with sides 14 inches deep. If for sweet potatoes put in sand to a depth of 6 inches at the front end where the heat is strongest; 4 inches deep will be sufficient at other end. An old chunk heating stove may form a good furnace, placing it in a pit so the pipe will come even with bottom of cavity under bed and letting heat and smoke circulate freely under bed and escape through flue at opposite end of bed. It is much easier to regulate heat in this way than with manure. The bed may be covered with canvas or glass.
Kemblesville, Pa. Josiah Standing.

Forage Experiments.—The past two seasons I have tried the forage plant known as penciliaria or pearl millet; also "billion dollar grass" or Japanese barnyard millet. On our clay soil I find sorghum far superior to penciliaria, which I do not consider a paying crop except on rich soil. The billion dollar grass would have made fine hay, but the chinch bugs found it and saved me the job of cutting it; in fact, they killed it before it was 4 inches high. I believe it is a mistake to sow it with the chinch bug anywhere near, as they will surely find it. Have also tried a hog millet which I think some call broom corn millet, but chinch bugs made short work of that Godfrey Winkler.
Southwest City, Mo.

The Piedmont Rabbit. — We have an abundance of rabbits here in the Piedmont region of North Carolina. While chickens are highly prized and Belgian hares are in demand, we might be reminded that rabbits form quite an item in the meat line, while the skins come in as an item in the trade line; at least it is very common in winter to see the small boy on his way to market with two or three rabibt skins under his arm, and such skins as he did not take time to stretch very well. However, the small boy is not the only "man" engaged in the rabbit business. Through this part of the country men travel around regularly during winter, buying up all the rabbit meat they can get, paying, usually, about 5 cents each. They then expect to sell them in the towns for 10 cents apiece. These rabbits make better meat and furnish nicer skins when caught in traps rather than by dogs. J. S. Grabs is one of those who in the winter season traps for rabbits. "John" has been averaging more than 150 each season for nearly 20 years. Last winter he caught and skinned about 194. In favorable weather these rabbits are nice and fat. W. F. Grabs.
King, N. C.

Raising Potatoes. — Last spring we planted about three bushels of Irish potatoes in a deep, rich, sandy mold, there being a few oak and hickory trees scattered here and there over the place. The preparation and cultivation were reasonably well done; the seed was very good and a fine stand was obtained, yet the entire patch yielded only about four bushels of tubers. My opinion is that shade and the roots of growing trees are not very advantageous in the growing of Irish potatoes. It was an almost complete failure. J. N. Garrett.
Yadkin College, N. C.

Success with Strawberries. — Notwithstanding that last year was an "off" year for berries, we had an immense crop, largely owing to the best selection of good plants for the mother plants. We always select young, healthy plants, for the strongest are the ones that produce the heaviest crops. Then, too, we give the best of attention. In selecting plants, as in selecting animals, we want to begin with something good and then make it better all the time. Some people are opposed to selecting plants, saying that anything else will do as well, but we have found it pays to make a strict selection of the plants we set. We are large growers of strawberries for the fruit, and know whereof we write. John Lightfoot.
Sherman Heights, Tenn.

After Farrowing. — My neighbor has just made a mistake which I must report for the benefit of P. F. readers. He had a valuable Chester White sow, which during the night gave birth to 12 healthy pigs. In the morning after the milk was separated, the sow was given all she would drink. Within a short time she was in distress the womb was cast, stepped on and torn and she bled to death within 15 minutes. A sow should be fed sparingly for a week after farrowing, particularly of the heat producing foods.
West Barnet, Vt. E. H. Strobridge.

Grub in the Head.—A few years since I had a few sheep, about half of which died rather mysteriously. The first one to die was a lamb of extra parts, which was in a state of decay before I found it. I borrowed a ram of a neighbor and he died as mysteriously as the others within four days after I got him. The next one that took sick I put in a stable and tried to do something fore it, but of no avail. After several days of intense suffering with its head thrown back, and moaning like a human being, it died. Some time later I found a description of a sheep with grub, and from the symptoms judged that this sheep died of grub in the head. I have since found a remedy for the grub which I trust all sheep owners will use when occasion requires. Hold up the head of affected sheep and pour a teaspoonful of common kerosene into each nostril. The oil will reach the grubs and destroy them.
Thom, Tenn. S. B. Fickle.

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Stoves handsomely finished in black enamel, with trimmings heavily nickeled.
No. 465. Height, 28 inches; top, 18½x35 inches; shelf, 7x22 inches; step, 16x16 inches; weight, crated, 100 pounds (see cut). Price, $13.25; with oven, $16.00.
No. 464. Three burners. Height, 28 inches; top, 18x25 inches; shelf, 7x22 inches; step, 16x16 inches; weight, crated, 85 lbs. Price, $11.75; with oven, $14.50.
No. 453. Three burners. Height, 28 inches; top, 18¼x35 inches; shelf, 7x22 inches; Weight, crated, 75 pounds. Price, $10.75.
No. 452. Two burners. Height, 28 inches; top, 18½x28 inches; shelf, 7x22 inches. Weight, crated, 60 pounds. Price, $9.00.
Cabinet style (like 465) without step and shelf but only 15 inches high.
No. 353. Three burners. Weight, crated, 65 pounds. Price, $9.00.
No. 352. Two burners. Weight, crated, 50 pounds. Price, $7.00.
ORDER NOW AND GET YOUR STOVE BEFORE THE RUSH COMES.
The Farmer Co., Market & 18th Sts., Philadelphia, Pa.

Postal Card Correspondence.

This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

Located in the eastern part of the Yakima Valley, in the Sunnyside district. Mabton, 7 miles south, is our nearest railroad station, but we have a prospect of a road through this part of the valley in the near future. Farming is the principal industry. Large crops of alfalfa, fruit and hops are grown. Alfalfa yields from 7 to 9 tons per acre during the season and can hardly be bought now at any price. Climate is fine; not much rainfall, and lands are irrigated. Fruit trees are in bloom; the fields are green and farmers are busy with spring work. Potatoes, about $7 per ton; eggs, 12½c. per doz.; creamery butter, 30c.; ranch butter, 20 to 25c. per lb. Quite a number of people coming in with a view of locating. MRS. METTA MARSAN.
Sunnyside, Wash., May 5, 1903.

The spring has opened very unfavorable for the farmer; work very much retarded; the wheat and grass looking good. The prospects for the season's crops fair. The tiller of the soil is on a rapid stride of advancement. Fruit bids fair for an average crop, except strawberries, which were frozen. Stock looking good; horses scarce; cattle plenty; poultry of no specialty. Prices of products good, with ready market. Wheat, 71c.; oats, 32c.; corn, 40c.; clover seed, $7.50 per bu.; eggs, 12c. per doz.; butter, 20c. per lb.; farm labor scarce at $20 per month, with board. Country badly cut up with electric railroads, but land is of good value and in a good state of cultivation. Churches and schools plenty. G. YEAGER.
Sprankle Mills, Pa., May 12, 1903.

Located in Southern West Virginia, near the Virginia line. Country mountainous and the principal industries are stock raising and lumbering. Farmers much behind with their work just now on account of the continued rains of the last two weeks. This section is improving as a farming country. New ideas, new machinery, better roads, telephones and a more general reading of the best farm papers are working a gradual and much needed change in our way of living. Local markets: Wheat, $1; corn, 75c.; oats, 60c.; potatoes, no demand at 50 to 60c. per bu.; horse high and scarce.
R. T. FLESHMAN.
Peterstown, W. Va., May 11, 1903.

Located at Bourbon, Marshall Co., Ind., 95 miles east of Chicago, in a splendid farming district. Farmers here are up-to-date, prosperous and happy. Mortgages are being paid off and everybody making money. Winter wheat is looking well and promises a big harvest; oats all sown and up nicely, and farmers plowing for corn; pasture for stock is good; prospect for a fair fruit crop, although damaged some by late frost. Farm stock of all kinds looking well. Young clover looking well and a good stand. Farm help scarce and high. Prices of farm products: Wheat, 75c.; corn, 43c.; oats, 35c.; potatoes, 40c. per bu.; butter, 14c. per lb.; eggs, 13c. per doz.; chickens, 10c.; cattle, 4½c.; hogs, 7c.; sheep, 4½ to 5c. per lb., live weight. Farmers all encouraged and looking forward to a prosperous year. C. E. AILES.
Bourbon, Ind., May 12, 1903.

Located in Tompkins Co., N. Y. Weather cold and dry; frost May 1st; think fruit all killed; crops late; hay scarce, $12 per ton for very poor article; eggs, 16c. per doz.; butter, 25c. per lb.; potatoes, 50c. per bu.; cows cheap; horses high; hens, 12c. per lb., live; maple sugar high, $1 per gallon and very scarce; farm help high, $26 to $30 per month, on account of nearness to shops. Three miles in any direction to churches or graded schools, also good district schools; Cortland Normal School but 7 miles. Farms mostly small and well under cultivation. We have fine roads for so stony a region; they are all worked by the town.
FRANK A. BROWN.
R 14, Groton, N. Y., May 13, 1903.

Located in Southwest Missouri, near the junction of Maraisdescygnes and Marmaton Rivers. This valley is very productive. Corn and timothy hay the principal crops, although in the low bottoms a tall slough grass affords abundant pasturage and a fine quality of hay almost equal to timothy hay for winter and much cheaper. Stock are brought for miles around to graze on the bottom pasture. But very little farming done yet, and farmers are getting anxious to commence. Almost no corn planted and but little plowing done. Few oats sown; but little of the gardens are made; unusually wet and cold. There is but little wheat and it does not look well. Grass looks fine. Stock on pasture. Most of the peaches are killed on the low land, but on upland they give promise of a fair crop. Farm hands scarce; wages $13 to $18 per month and board; eggs, 13c. per doz.; butter, 12½ to 15c.; hens, 8½c. per lb.; hogs, $6.50 per cwt.; potatoes, 50c.; corn, 33c. per bu.; mules and horses are high, $60 to $100, and $40 to $125 respectively. Farmers have rural routes and some have telephones in their homes, and the number of phone lines are increasing. Long live the P. F. JAMES H. TULL.
R 1, Walker, Mo., May 9, 1903.

Eastern New York. Farming mixed, but running dairy products, co-operative creameries being successfully operated. This spring has been cold and wet, except in March; last of April ice formed nearly every night, clover and new seeding sown on winter grain frozen badly; much will have to be re-seeded. Rye looks worse than March 1st; large acreage of oats sown past week; but little garden truck has been planted. This is first season of working roads by tax; it will certainly give us better roads; the State Government pays one-half expense. Good roads must come and the farmers are awakening to this fact. Much bitter feeling is aroused against the canal improvement scheme, which will be voted on this fall; the cities are in favor and the farmers, rank and file, are arrayed against it. Farm help is scarce and wages have soared beyond hiring at a profit, and most farmers will do best they can.
G. H. TOWNSEND.
West Berne, N. Y., May 13, 1903.

Located in north central part of Bedford Co., Tenn., 4 miles from N. C. and St. Louis R. R. Country adapted to all sorts of farming. Some alfalfa being sown. Most farmers are for improving their land; lots of peas being sown of late years and more clover. A good place for home seekers. All farm produce a good price. Spring cool and wet; corn planting slow and farmers behind in work; wheat looks well. Prices: Corn, 70c.; wheat, 90c.; oats, 50c. per bu.; hay, $1.10 per cwt.; eggs, 12c. per doz.; bacon, 12½c. per lb. All good stock scarce and good price; butchering stuff hard to find.
ERNEST HUMMEL.
R 3, Shelbyville, Tenn., May 9, 1903.

This from Ripley Co., S. E. Indiana. The last two years here have been prosperous ones for farmers, as both crops and prices have been good. Roads have been almost impassable the latter half of winter, owing to excessive rains and the continual passing of great loads of big saw logs, which have kept the roads all cut to pieces. By the way, this has been one of the greatest timber belts in the U. S. Oak, yellow poplar, hickory, beech, etc., all of which is fast disappearing, with four sawmills at Sunman and numbers of others within hearing. Fine crops produced here last year. Growing wheat went through winter unscathed and up to within three weeks ago the prospect for a bumper crop was never better, but since then it seems to be going backward, owing, I think, to excessive rains and cloudy, cold, frosty weather. It is all turning yellow; this seems to be general over at least the eastern portion of the State. Prices: Horses about all bought up that can be spared at from $60 to $180 each; hogs, $6.40 to $6.50 per cwt.; cattle, good beef, 4c. per lb.; cows, $20 to $40 each; wheat, 60c.; corn, 55c.; oats, 45c.; potatoes, 50c. per bu. Poultry of all kinds very high. Spring very backward; oats not nearly all sown; few potatoes planted; little garden made; ground too wet. FRANK ROBINSON.
Sunman, Ind., May 12, 1903.

Situated in Kenton Co., Ky. Independence is the county seat, a nice little residence village. We have had a very wet winter and spring. People are behind with their farm work. But everything is green and there is a good pasture. Prospects fine for wheat and oats; all kinds of feed are high; butter, 20c. per lb.; eggs, 14c. per doz.; horses, good, from $125 to $200 each; corn, 50c.; wheat, 70c. per bu.; flour, $4 per bbl.
KIRBY RICHARDSON.
Visalia, Ky., May 12, 1903.

Located in Mecklenburg Co., the garden spot and banner county of North Carolina, 15 miles from the city of Charlotte, where the first declaration of American Independence was declared, May 20th, 1775. Mecklenburg Co. has over 110 miles of macadamized roads equal to city streets. Prices as follows: Horses, $125; mules, $150; milch cows, $25 to $30; pigs, $2 each; pork, 10c.; bacon, 12½c.; butter, 15c. per lb.; hens, 35c. each; eggs, 12½c. per doz.; corn, 60c.; wheat, 60 to 90c.; oats, 45c. per bu.; land worth $15 to $30 per acre. Cotton, corn and wheat the principal crops.
R. W. ROLLINS.
Huntersville, N. C., May 11, 1903.

Located 1½ miles from Sanilac Centre, the county seat. Railroad here with the last year. March was unusually mild, but April was changeable with considerable northeast wind. Bees are wintering well for this section. Farmers are busy with seeding. New milch cows, $35 to $45; horses, $100 to $150 each; hogs, live, 6c.; dressed, 8c.; beef, dressed, 6 to 7c.; sheep, live, 3 to 4c.; lambs, 4 to 6c.; wool, 15 to 16c. per lb.; timothy hay, No. 1, baled, $9 to $10; clover hay, $4.50 to $5.50 per ton; clover seed, $5 to $7 per bu.; wheat, 65c.; oats, 34c.; beans, $1.75; onions, $1.75; potatoes, 65 to 80c.; apples, 25 to 40c. per bu.; flour, $4 per bbl.; butter, 15c. per lb.; eggs, 12c. per doz. Sugar beets are raised quite extensively in this part of the country. MRS. W. J. MANLEY.
Sanilac Centre, Mich., May 9, 1903.

Situated in the northeast corner of Jackson Co., Ill., one-half mile west of I. C. R. R. main line, 70 miles north of Cairo, Ill., 80 miles southeast of St. Louis, Mo., in coal fields. Soil a red clay loam, some white post oak dirt. Crops are wheat, corn, oats, potatoes, cow peas and fruit. Some hogs and cattle, but scarce. Potatoes grown under straw. Crops late and fruit damaged by frost April 30 and May 1 to 3. Wheat, 65c.; corn, 40c.; oats, 50c. per bu.; hay, $10 to $12 per ton; potatoes, 40 to 45c. per bu.; butter, 15 to 20c.; hogs, 6c.; cattle, 3c. per lb.; horses, $50 to $100 each.; chickens, 8 to 9c. per lb.; eggs, 12½c. per doz. Wheat and oats in field looking well. Some corn planted. Rural free delivery. Farmers' Union dead. Need the P. F.
I. H. BRAYSHAW.
Elkville, Ill., May 11, 1903.

◆

Buying Ready Mixed Paints. — The matter of painting is hardly ever out of season with the householder. Right at this time it is emphatically in season. There is a fruitful field for imposition in ready mixed paints, and many compounders do not hesitate to practice it. We take pleasure in pointing to one concern—a present advertiser in our columns—that has the reputation of mixing paints in the good old-fashioned way, just as it was done before counterfeiting became so common, and it deserves that reputation. We refer to the Sleck Paint Company, whose paints are ground in raw linseed oil, and sold under the trade mark, "Oilead Paint." The trade mark is a guarantee of quality. If you would have your job look and last and preserve as it should when it is done, this concern is a good one to know. They publish an interesting little book on paints and painting and send it with a color card free of charge to anyone writing for it. Send for them and have them ready against the time you'll have need for the kind of goods they keep. Address the Sleck Paint Co., Dept. P, Chicago, Ill., and mention the P. F.

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Cow Peas For Seed Northern Grown
Hammond's Extra Early, Whippoorwill, Clay, Wonderful, Black's, $1.50 per bu., mixed $1.20. Medium Green Soja Beans, $2 per bu. Dwarf Essex Rape, 4c. a lb.
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THE KEYSTONE TO SUCCESSFUL FARMING

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The Practical Farmer Spring Crop Report

Condition of agriculture compared with a general average, 100 to stand for a full crop. Wheat, 105; oats, ground condition fair, too dry to come up; corn not much planted; hard plowing; meadows, 100; pastures, 90; area for spring crop, 100; horses conditions, 100; cattle, 100; sheep, 100; hogs, 95; poultry, 100. Prices good. Fruit prospects: Apples, 100; peaches, 75; cherries, early, 50, late, 90; plums, 100; pears, 80; blackberries, 100; raspberries, 90; strawberries, early, 40, late, 90; area for potatoes, 120. Farmers life is one of faith, always hopeful of the future. GEO. W. LASH.
Polk, O.

The above postal has been awarded the First Prize of $5.00. We consider it a model crop report.—ED. P. F.

NEW ENGLAND.

Connecticut.

The special line of farming is growing wrapper tobacco. In the past three years much Sumatra has beeen grown under cloth to replace that of the imported from Sumatra. Tobacco land sells from $25 to $300 per acre. The acreage of Sumatra will be increased this year. March was a very warm month and April rather cool. Have had no rain since April 14th except a light shower May 7th. Most crops look well. Fall seeded grass (Clark plan) looks well on moist soil, but on light soil looks yellow. There is no systematic rotation followed here except by a few. The teachings of the P. F. are much needed. A few use a cover crop of rye and red clover. Cows are at pasture. Stock is looking well. The outlook for milk and butter has a bright future. The progressive farmers are building silos, and use as many protein crops as possible. Very little spring seeding done here. Some clover sown in rye, and oats and peas. Potato planting all done.
Windsor, Conn. MONTAGUE HAMM.

Rye looking well; not much wheat raised. Tobacco chief crop, but prices very low last year and some crops not sold yet; injured in curing last fall by too much damp weather early in season. Apple orchards have shown a promise of a large crop; early berries injured by frost, as well as peach and plum trees on low ground. S. E. KELLOGG.
Danbury, Conn.

Maine.

Potatoes, hay and grain are our staple crops. At this writing farmers generally have their grain all sowed, averaging from 10 to 20 acres; and their potatoes about half planted. They usually plan on having their crop all in by the last of May, and they are well along this year, as it has been a fine and dry spring. A good many apple trees have been shipped into this part of the State and set out this spring. At present the orchards in bearing in this vicinity are few and small. Farmers generally make but little account of poultry, keeping a small flock of hens for their own use. But few hogs are kept; about enough to supply the home market. Hog cholera is unknown in this section. The prospects are good for a bountiful crop, and farmers are busy, cheerful and hopeful.
Morris, Me. MRS. M. WEYMOUTH.

Massachusetts.

We are situated in a hilly region, 30 miles from Springfield and 2 from the Connecticut line. This spring is very dry and the nights are so cold that the season is very backward; the days are very hot. Farmers well up with planting. Almost no grain raised here. It is a dairy farming place. No foot and mouth disease, although cattle are quarantined. Almost no help, male or female, to be had. MRS. O. H. WEBBER.
Tolland, Mass.

Vermont.

Soil fertile, and the people are prosperous and happy. Spring seeding well advanced. Some potatoes planted. Help scarce and wages high. Stock looking well and bringing good prices. Hens laying well. Apple trees will blossom fairly well; small fruits and plums full. All kinds of produce bring good prices. It is very dry, but farmers are putting in their crops—hoping for rain soon—and trusting in Providence for a bountiful harvest.
Morrisville, Vt. C. J. MOORE.

Season forward. March hot; April cold; May dry; no rain of any amount has fallen since April 8th. Forest fires raging. But little winter grain sown. Grass was well covered all winter. Prospect of abundant fruit. Have not seen a potato bug this spring. Horses and cows rather scarce and high priced. Very few colts raised here. Flocks of sheep are few and growing less. Hogs and spring pigs are high. No hog cholera in this section. Farmers buying much phosphate and grain. CARLOS HATCH.
Worcester, Vt.

EASTERN.

New York.

But little winter grain raised here. New seeding of clover and timothy looking well. Spring work well advanced; many acres of oats up; many acres of potatoes planted. Vegetation late in starting but a few days of warm weather have hurried things along wonderfully. Plowing for corn well under way; sod land turning over in fine condition. Fruit prospects bright except for apples; many kinds will not blossom. Plums, peaches, pears and cherries blossoming very full. Grapes starting very slowly. Farmers and gardeners hopeful and expecting a good year.
Orchard Park, N. Y. W. D. CHILCOTT.

A favorable seeding time has followed a late, wet spring and work is now well in hand, with the usual amount of grain sown, and farmers plowing for corn. The fruit outlook is not of the best; small varieties being injured by frost, and wheat and grass are backward and need rain, yet farmers are hopeful. Stock of all kinds has wintered well. This section is not troubled with hog cholera. DANA WALDRON.
R 2, Wolcott, N. Y.

Spring arrived six weeks sooner than usual. Nice weather for plowing the middle of March, followed by a month of almost continuous rain, then with vegetation greatly advanced, weather turned cold, doing much injury to fruit, pasture, etc. Winter grain never came through better, and has stood the recent cold well. Butternut, oak, chestnut, hickory and locust timber trees are apparently dead since the freeze; unfavorable weather has delayed spring work. Dairying here is the paramount industry and milk never returned a better profit, hence the farmers wear a look of contentment; this, of course, applies to those practicing P. F. or up-to-date methods. The poultry business is pushing hard for the front rank here and paying well when judiciously managed. Milk is the only merchandise we have that is not quoted and sold according to quality. Cows are scarce and high priced; in fact, all farm stock commands good prices.
Winterstown, N. Y. C. S. HORTON.

At the present time weather very warm and dry. The ground the driest ever known this time of year. The first week in May cold, with frost almost every night. Extremes of heat and cold all the season. March wet and cold, with the exception of the third week, when the thermometer registered 78 degrees one day. Buds on trees burst but were frozen when mercury fell to 20 degrees. It is thought the fruit mostly ruined. In March wheat never looked better; since the middle of April both wheat and grass have gone backward; some oats sown. Plowing extremely hard, and land hard to fit. Unless rain comes soon much seeding will be given up. Much less acreage of cabbage sown than last year, as many farmers drew last fall's crop on the ground this spring and plowed it under, there being no sale for it. Potatoes are abundant. Discouraging outlook.
Ilronia, N. Y. F. GIBBS.

Wheat is looking finely; the best in many years. Very little rye is sown here. The usual amount of barley, oats and peas are sown, but are making slow progress. Ground very dry and lumpy. Farmers here are now busy planting corn and potatoes, but the outlook is not promising for great crops. The fruit prospect with us is good, being later than in some localities where frost has injured it. Plum trees blossomed full. Apple and pear treese are now in full bloom, with prospect of a large crop; no peaches; not many cherries. Strawberries wintered well, but are suffering severely from a four weeks drought; vines small, just beginning to blossom; their future is depending on the weather. The acreage of cabbage will be about half of last year. Stock has not wintered well; too much poor hay and silos not filled with good material as common. Our grass has been injured by frost, and now pinched by drought. But few farmers here have turned stock out to pasture yet, and the grass is very short. There are but few sheep here; they are looking very well generally. Fowls did not lay as many eggs as usual last winter, but are doing better now. Farmers feel poor, from their loss on cabbage, their best money crop, last fall, and have not quite their usual courage for the future. R. C. TROWBRIDGE.
Onondaga Co., N. Y.

Productive soil; farmers progressive. Teasels are grown here to export for raising nap on woolen cloth. No hog cholera, although many hogs are raised. Cabbage low last year from overproduction. Farmers much interested in the question of good roads; one mile built last year cost $9,100; more to be built this year. A stone crusher and steam roller working wonders for the highways. Thriving Gra[illegible] is scarce. Farm work somewhat [illegible] of early wet weather and [illegible] weather for past month, making ground hard to fit. Prospect for fruit is fine. RAY B. BOWER.
Skaneateles, N. Y.

Wheat and rye fine. Since middle of April cold and dry; frost every night to May 10; some apples killed; plum blossom full; pear bloom small. Seeding of oats, barley and peas mostly done and germinating well; early potatoes planted; very dry; preparing for corn; large crop for ensilage being planted. Owing to poor hay our stock looks the worst it ever did, and many have died from liver disease and poor feed. Smallest amount of milk this spring our factories ever received. Horses scarce and high. Season very unfavorable for maple sugar, and smallest crop ever made. Farmers generally finding fault at cold, backward condition of grass, and hay at $10 per ton and poor. Poultry has done well and prices are good. Sheep and lambs doing well. Pastures very dry and short. The freeze of May 2nd was severe; mercury down to 15 degrees. J. B. FORD.
Belfast, N. Y.

The outlook in this section promises well for the thrifty farmer, and there is a feeling of hope and trust that this season will make amends to a great extent for the hardships of an unusually wet one last year. Spring opens early and all conditions favor a prosperous season. Winter wheat and new seeding look fine; never better. Fruit of all kinds will be abundant with future favorable conditions. Stock has had a hard winter, owing to poor quality of hay. Poultry products are paying well and many a farmer finds a flock of thoroughbreds a profitable branch of agriculture. E. E. LAWRENCE.
Spafford, N. Y.

Fruit raising is the principal industry, although grain, potatoes, cabbage, sugar beets, hay, live stock and poultry are grown. The season is about one week late for seeding spring grain, owing to excessive rain and cold weather. Oats and potatoes being put in this week. The fruit conditions are good. Apples and peaches the main crop in the fruit line, are blooming full; also pears, plums and cherries. Cattle not in as good condition as usual, owing to scarcity of fodder. The Poultry business growing. Wheat looking fine. Prospects good for a heavy hay crop.
Appleton, N. Y. F. COZZENS.

Pennsylvania.

April cold and frosty; May 1st a few flakes of snow fell; May 15th grand weather; fruit trees full of blossoms; winter wheat looking well; oats up; potatoes planted; corn planted; some gardens in. Farmers looking for a fruitful year. Stock well wintered and looking fine. No hog cholera in this section. Good young horses in demand.
R. 4, Corry, Pa. L. C. BENSON.

Fall grain came through the winter in good condition, and there are prospects for a good crop of both wheat and rye. Oats are all sown, but not growing fast, on account of dry weather; not very good prospects for fruit; a good many peach buds killed in winter. Farmers are taking more interest in poultry; good many getting pure breeds; farmers also getting better cows and taking better care of them. Horses high and scarce. Up-to-date farmers that read good agricultural papers, such as P. F., are looking and working for a prosperous season.
Kirkman, Pa. D. R. BUTLER.

Winter wheat very promising; grass is not heavy set, but looks promising; needs rain. Spring seeding all done; extra large acreage seeded. Fruit looked very promising, but late heavy frost injured it much. Special interest in stock, which looks well and is doing well. A few droves of hogs brought to town last winter had cholera, but no local cases, as good care and proper feed prevent it. Hogs are profitable. Poultry is given some attention generally, and is profitable; local fanciers busy and hopeful. Farmers are progressive, cultured and hopeful generally. Hoping for rain to finish sod plowing for corn; not much planted yet. Homes convenient, and surroundings putting on special attractions. Lawns look well. There is no lamenting that farming does not pay. We are content. ALLEN K. HIGH.
R 2, Pottstown, Pa.

Grain and grass look well; the fruit outlook in this section is very poor. Some farmers have finished planting corn and potatoes. Hogs high in price; no losses caused by cholera. Dry and cool weather prevails.
Milton, Pa. H. K. HOTTENSTEIN, SR.

Have had good weather for a month or so, but no rain to speak of, and having hard frost which destroyed the early strawberry crop. Winter wheat looking good; oats and meadows are in need of rain; apple crop will be scarce generally; pears, peaches, plums and cherries, will be a medium crop. Stock is in good, healthy condition generally. No hog cholera in this section. Farmers are quite prosperous around here and are looking forward to a good season, provided we have rain before long. Hired labor is scarce and wages are high, owing to extensive railroad building. Poultry is in good shape; little or no disease; poultry and eggs are in good demand, with fair prices. Farm and dairy products have fair price, also.
Fairview, Pa. LEVI R. MARKWOOD.

Land rugged and hilly. Corn, oats, potatoes, rye, buckwheat, clover and apples largely grown. Attention is also given to dairying and poultry raising. Weather dry; nights cold; frost May 1st and 2nd; but little injury done. Pastures short; oats sown; gardens planted and corn and potato ground plowed. Winter sown grain and new seeding doing well. Prospects for a fair fruit crop. Butter, eggs, apples and potatoes in good demand. Dairy cows scarce. Hog cholera unknown. Farmers well up with their work.
Simon, Pa. DELBERT MCKINNEY.

Fine locality for general farming. Winter grain and new seeded meadows came through in fine shape, but are being hurt by drought. Large acreage of oats sown in very lumpy ground; corn planting has begun; more potatoes being planted than usual. Hay crop last year below the average and badly injured by excessive rains; and will be very light this year if we don't get rain soon. Despite the numerous frosts and freezes there is a fair show for most all kinds of fruit common here, except currants and gooseberries. Not much stir about sheep. Never had hog cholera in this vicinity. Farmers, as a class, all hopeful, and most of them improving their farms. The "good roads" question being agitated to some extent, also equalization of taxes.
R 1, Utica, Pa. D. G. PEDEN.

The exceptionally fine March prospects for grass and winter grain were reduced from maximum to about 75 by the excessive cold and long-continued rains of April, which also made the ground hard to prepare, and the sowing of oats and planting of corn and potatoes some weeks late. Peaches and other tender fruits were winter-killed. The locusts, by preventing growth, induced the formation of an enormous growth of fruit buds, and we expect a great crop of probably inferior apples. Considering the shortage and poor quality of roughage, all kinds of stock look well. No hog cholera nor other animal epidemic here in the past year. The unusual output by the machinery men indicates a cheerful and hopeful feeling among farmers. All kinds of help scarce, and men of all trades are busy on full time.
Flora Dale, Pa. W. H. BLACK.

Winter wheat in this section is looking fine. The continued drought very hard on new seeding. Oats all sown; coming up nicely; corn ground nearly all plowed. Potatoes, early ones, planted; general crop is being planted. Think we will have an abundance of fruit; earliest strawberries hurt some by frost. Has been an ideal spring for work, and all work well advanced for the season. Farmers in this section have been very busy and seem generally hopeful of a good season. Hay crop should be large, on account of good catch of seed in 1902. M. WINANS.
R 3, Meadville, Pa.

The above postal secures a $1 prize.

Wheat and rye are looking fair, although we have had a severe winter for grain; some oats are sown and as to spring seeding little is done here in winter sown grain. Most all seed in oats, as little wheat and rye are grown here. Early strawberries, peaches and early cherries, also other truck easily injured by freezing, were blighted by the frost on night of May 8th; where buds had not yet opened we have hopes of a partial crop. Few farmers here raise more than five or six hogs, mostly for their own use, and this locality is free from hog cholera. Most farmers are all hard working, industrious, sober people, hence they look for a prosperous season, although it is quite backward. Very dry at present. J. J. ELLIOTT.
Berwick, Pa.

Winter grain looking good. Oats all sowed and some corn planted. Fruit prospects fairly good; cows and beef cattle high in price and ready sale, also horses; poultry scarce and high in price. No hog cholera here. Everybody busy and cheerful, and all seem to be looking forward to a prosperous season. MRS. C. E. KNAPP.
Huntersville, Pa.

Have dry weather at present. Farmers had a good chance to put in the crops; it was wet so long that we were glad for this weather, but will soon need rain to plant tobacco. Oats are sown; potatoes mostly planted and I think over half of the corn; the dry weather delays corn planting some, as plowing goes hard. Expect a large acreage of tobacco to be put out, as it paid well the two last years, selling from $100 to $150 an acre and over. Steer feeding paid rather poor last season. Wheat very well; grass poor; lots of fields being plowed for other crops. No hog cholera in this neighborhood to my knowledge, but lots of hogs died last fall in northeastern part of county. Potatoes plenty and dull. Lots of second crop potatoes planted.
Ronks, Pa. J. F. BEILER.

Weather cold and dry. Wheat crop generally poor for this time in May; grass short; fruit supposed to be frozen; frost nearly every night; oats about all sown; no corn planted yet. No hog cholera.
Bellwood, Pa. W. L. SNOUFFER.

Land limestone, of good farming quality. Wheat looks well; oats and barley poor. All spring crops are sown and planted except tobacco, of which there is not much planted yet. The prospects for fruit are poor, as we had several heavy frosts during the blooming season. Not much thoroughbred stock raised in this section. Hogs entirely exempt from cholera at present. Not much sickness among stock this spring. Horses and cows in demand at high prices. Farm help scarce and wages high. Spring work in general a little late on account of drought. We are prosperous, healthy and happy.
R 3, Ephrata, Pa. S. G. SWEIGART.

Weather has been cold, with late frosts, which have damaged the fruit crop very much. Wheat looks very good; oats coming up nicely; corn is just being planted; also potatoes. Grass doing no good, needing rain badly, and was hurt by late frosts. Horses scarce and high. Hog cholera not prevalent in this section. Farmers, as a rule, taking a bright view of things, although farm help is scarce. Poultry not raised very extensively.
R 10, Butler, Pa. C. A. WACHSMUTH.

Wheat and rye sown in fall stood the winter well, but are in need of rain at this time; oats seeding was delayed, owing to wet weather in latter part of March and beginning of April; much trouble in getting corn land ready for planting, owing to dry weather at this time. Indications for short hay crop for same reason. Considering everything, farmers have work well in hand. As to fruit cherries and strawberries are partly nipped by frost; apples promise a very large yield; peaches and plums ordinary; pears did not bloom as much as usual. Farmers, as a rule, are hopeful and enthusiastic, which in itself means success. General condition of stock good; farmers do away with "scrubs," and instead keep blooded stock. Hog cholera is not prevalent in this section at this time. There is more interest manifested in poultry than heretofore and better results are obtained. Very few sheep are kept in this section. HARRY LANDIS.
Stony Brook, Pa.

Located 7 miles from Pittsburg, which gives a good market for garden truck, which most farmers are engaged in raising here. Good roads the year around, which is a great benefit. Farmers are behind with their work, owing to a late spring. Fruit prospects are good although have had frost almost every night last month; most all early fruit was killed by a freeze early in April. Wheat looks well, but the grass will be short unless we soon have rain and warm weather. Farmers are looking forward to a prosperous year, although never sure of a crop until it is harvested. JAMES RYAN.
Haffey, Pa.

Close to the anthracite coal regions, where the best prices can be obtained for farm produce. The farmers are prosperous and study agricultural boooks and papers. The first snow fell on Dec. 5th and the ground was covered with snow until the beginning of March. Wheat and rye suffered the least during the winter. We had fine weather during March, and some oats were sown and potatoes planted. The early part of April was too wet to work in the ground, and the latter part dry and cold. Crops gained very little in April, although most of the early planting was done during the month. We had a heavy frost on the night of May 1st, and the fruit crop is injured. The prospects are for a small crop. The farmers live up-to-date. Finest stock and poultry are raised. The farmers are working for a prosperous season. Hog cholera is not prevalent in this section. F. F. FRANTZ.
Wehr, Pa.

Winter grain looks well here; the ground is all covered up. It is very dry at present; ground very dusty to prepare for corn; some corn planted; oats all sowed in April; grass will be short, except last year's seeding; the clover looks well; fruit all killed except late apples. Stock looks well generally. No pasture yet. Farmers generally looking for a prosperous year. No cholera here for years.
Baxter, Pa. J. W. FITZSIMMONS.

Considering present indications of winter sown crops, farmers are very hopeful for a bounteous harvest. Oats could be better with some rainfall. Stock in A1 condition. Hog cholera is not prevalent. Poultry thriving very well. Fruit fine except cherries; apples especially good. Hay scarce; clover and timothy have a good stand, but will not be high, on account of lack of rain. Many farmers repairing and adding to house and out buildings. R. T. PEPPELL.
Geryville, Pa.

We are experiencing one of the driest springs known for years, and consequently farmers are much behind with their spring work. Spring seeding put out with ground in poor condition; some oats ground not seeded at all; some corn planted—much corn ground not yet plowed; ground breaks up in worse condition than in 40 years. Fruit injured by heavy frosts in April and early May; wheat not looking the best. Farm help scarce. Under such conditions farmers in general have the blues, but present indications foretell rain, and our spirits have risen way up in the 90's, for we farmers are after all an optomistic lot. A few farmers grow clover as a fertilizer, but manure and commercial fertilizers are generally depended on to maintain fertility of the soil. Hay and grain, including wheat, marketed to a considerable extent through fat hogs and steers. No hog cholera in this section at present.
Newberrytown, Pa. EDGAR WHISLER.

We have a good farming country, although hilly. The buds on fruit and other trees were started by warm weather in March only to be frozen by cold snaps in April, so there is little prospect of fruit. The wheat was also nipped. Many early chicks died from effects of cold and wet. Although the weather is very dry, oats are up and farmers are preparing their corn ground.
West Freedom, Pa. P. E. YINGLING.

A very late spring; early part very wet, later very dry; a nice shower on May 14 broke drought. Have not heard of hog cholera lately. Mad dogs have done some damage, several cows and hens going mad; many dogs bitten. Beef, veal and pork are very high, dressed, and shoats are very high. Heavy frost May 1st; fruit much hurt. MRS. G. P. WEST.
Danville, Pa.

With 17 wet days in April, spring work was somewhat delayed. Crops are now in and in fair average condition. Wheat never looked finer; with good tillage and proper fertilization farmers are raising 35 to 40 bushels per acre rig [illegible] Every indication of an apple, pe [illegible] 45c. per [illegible] all fruit crop; peaches a failure. Some [illegible] and lambs raised, but majority of [illegible] attend the creamery and feed hogs, which sell from 8 to 9c. Creameries every few miles; one with an annual capacity of 500,000 pounds. Some horses and mules raised, but many Western ones sold here. Horses, cows, hogs, lambs, poultry and eggs are bringing top prices. Main crops: Corn, wheat, oats, potatoes, hay and stover. With fair crops and prices farmers are no longer complaining of hard times. We are not only looking but working for a more prosperous season. No hog cholera here.
Taylorla, Pa. FOREST PRESTON.

New seeded clover and timothy were looking fine, but the cold snaps and lack of rain just now may damage the grass crop. Principal crops are oats, potatoes, corn and buckwheat; some pieces of rye. Pears, peaches, plums and cherries blossomed freely; not such a profusion of apple blossoms as last season, although not yet in full bloom. Hired help scarce and commands good wages. Farmers are getting in their crops in good shape. Strawberries are looking well and full of blossoms. MRS. J. W. HULL.
White Valley, Pa.

Healthful climate; good water; land fairly good, but most farmers use fertilizer for wheat and sometimes on corn and oats. Late freeze killed the cherries, and injured the wheat, but the outlook for other fruit and crops is good. The season has been unfavorable for corn planting, and only about one-half of it is planted yet. The weather at present is dry and cool. Stock and poultry are doing well. There is no hog cholera here. During the last few years some farmers have raised millet for hay, and think it pays better than timothy or clover. Many farmers have silos and are turning their attention to dairying. They ship the milk to Pittsburg. Most of them belong to the milkmen's association. Farm hands scarce.
R 2, Saltsburg, Pa. RALPH M. LYTLE.

This county is very hilly; soil light, yet it produces fair crops if properly tilled. Wheat looking fine, and if prospects continue we will have the largest crop ever gathered here; there is a large acreage of corn, oats and potatoes being planted; good prospects for fruit, but little attention given to spraying. Horses, cattle, sheep, hogs and poultry very scarce and high in price. Coal, ore, fire clay, limestone, oil and gas are here and are being worked to their full capacity; these industries turn thousands of dollars into the farmers' pockets in the way of teaming, rental and boarding. THOMAS PATTON.
Mosgrove, Pa.

March was warm and pleasant, and seemed to promise an early spring, but April proved cold and bleak, and May thus far, while the days have been warm, has given us cold nights, with continuous frosts. We have had no rain this month, with the exception of a very slight shower yesterday, and the present outlook is not very favorable. We have no winter sown crop in this section. Farmers have their oats in and some potatoes planted. Small fruits are blossoming profusely, but apple trees are not promising as well. Stock of all kinds is looking well; poultry, well managed, is profitable. While there is no flattering prospect of good things, we farmers, with true American courage and good prices for farm products, are hopefully pushing spring work. MRS. A. H. SMITH.
Uniondale, Pa.

Weather warm. Farmers started to plow and plant. Good roads; is getting dry now. Principal crops are oats, corn and potatoes. This has been a long winter. March was very nice summer weather. April has been very cold. CHAS. BUCKLAND.
Waymart, Pa.

The prospects are for a good wheat crop. The fruit crop also looks promising with the exception of a few early varieties that were damaged by the late frosts. From present indications the hay crop will be very short. April has been very wet, while the month of May has thus far been very dry. There is no cattle or swine disease in this section, and very little sickness among the people. Many churches and public schools.
Stony Brook, Pa. HARRY BOLL.

New Jersey.

The general feeling of the farmers here is cheerful and hopeful of a more than unusual good crop with fair prices. Sown crops need a shower. Spring seeding completed without a hindrance. Fruit injured some by late frosts, but plenty left.
Hammonton, N. J. C. L. MOSS.

This is a fruit and truck section principally supplying Philadelphia and New York markets. Season warm and very wet in early part and farm work delayed thereby. No rain for last four weeks and the light sand is rapidly drying out. Rain badly needed for plenty of sweet potatoes and tomatoes and germinating seeds. Nights cold all spring. Acreage of sweets and early truck about as usual. Tomatoes being grown on contract with canners; probably 200 acres. Have sweet potato flour and canning factory now, which use up seconds and small ones. Very little dairying done here. Hogs mostly kept for home use.
Vineland, N. J. ERNEST WYKES.

Wheat looks fair; grass short; oats not all up, as it is very dry; commenced to plant corn; plenty of apple blossoms; cherries short crop. Stock looks good; poultry a good crop, and prices good, mostly. Farmers are looking for a prosperous year, and if we do our part, we trust we will have it. No hog cholera here. THEO. C. VLIET.
Whitehouse, N. J.

The above postal secures a 50-cent prize.

Delaware.

Weather cool and dry. Wheat on high or well drained land looking good, but on low or damp ground the heavy rains in early April turned it red and put it to a standstill. Grass backward. Corn nearly all planted and in good condition. The prospects for fruit quite promising, however, some damaged by late frosts but not seriously. Hog cholera a rare thing, but has been near several times lightly. Stock of all kinds and poultry, too, in healthy condition and high. As a general thing agricultural situation quite promising. The hardest problem for the farmers to solve is the labor question, as farm help is hard to get and keep, and is mostly unreliable. CHAS. T. DEAKYNE.
McDonough, Del.

A fine country to live in. Estimate half or two-thirds of a fruit crop. Had no rain since 15th day of April. Wheat looking good in some sections. We have a field 30 inches and is not heading, yet; corn is coming up; hay crop going to be short; no prospect of rain in sight. Wheat, corn, meats, eggs and other produce slightly below Philadelphia markets. D. PLEASANTON.
Dover, Del.

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MIDDLE.

Illinois.

No wheat grown here in East Central Illinois, as it does not do as well as corn, oats and clover. Grass wintered in fine shape. Spring work commenced sooner than for several years past, being nice and dry up to middle of April, when we had very much rain. Oats suffered some on wet and low lands. Spring plowing was heavy since the rains in April, but mostly fall plowing is done for corn. Horses are scarce here, hardly enough for farm work. Cattle are in good demand. Fruit outlook is promising, excepting peaches, they freezing in winter, being 20 degrees below zero several times. Farmers are prosperous and all expecting good crops again this year. J. S. HODEL.
Cissna Park, Ill.

The above postal secures a 50-cent prize.

Farming operations very backward; too cold for germination and plant growth. General injury was sustained by fruit from frost on May 1st; strawberries, grapes and fruit trees in bloom suffered seriously. Oats are coming up unevenly and show a poor stand; considerable re-sowing was necessary. Plowing for corn is being done under difficulty, owing to the heavy condition of the soil; some planting being done. No winter sown crops grown. Stock wintered fairly well with few exceptions. Few farmers give poultry much attention, except for home demand. Farmers are somewhat alarmed at the cold weather, but not discouraged.
Franklin Grove, Ill. G. O. PETRIE.

Oats are partly sown; on account of the excessive wet weather there will be a smaller acreage than last year. Wheat is excellent condition; also clover and pasture. More corn will be planted than usual. Peaches, plums, cherries, apples and strawberries badly damaged. Some are trying alfalfa. Plenty of corn in crib. No hog cholera.
Centralia, Ill. HUGH BARKER.

The above postal secures a 50-cent prize.

Spring backward, cold and wet. Little wheat was sown last fall, on account of wet weather; condition 75 per cent.; oats look bad; too wet and cold; acreage smaller than usual; meadows good. Outlook not as good as last year; the ground breaks hard and soggy; too much rain in the winter. Peaches killed in February; cherries and plums bloomed, but the fruit is not there; apple trees were loaded with blossoms. The frost of May 1st killed everything freezable. Stock turned out on grass; thin in order, the months of March and April were so disagreeable and cold; hogs all right; no cholera; have a little less than the usual number on hand. Much poultry being raised; very little complaining about cholera. Prices of everything are good, but farmers are not more prosperous than when things were cheap.
Pana, Ill. E. N. VINCENT.

Weather good at present, but spring has been very backward. On May 1st we had a big frost that did considerable damage to fruit and truck patches, also to potatoes that were up. There will be some seedling peaches and a few apples; prospects good for plenty of dewberries, black and raspberries. Winter wheat looking fine, but needs rain; not much corn planted at this writing; oats crop looking fine; live stock of all kinds looking good, and pastures looking fine. No hog cholera. Poultry raising only on a small scale. Farmers generally prosperous and happy.
Grand Tower, Ill. W. W. MARTIN.

Winter wheat not doing well; the wet and cold of early spring, Hessian fly, present drought and heavy frosts of 1st to 5th of May have apparently combined to exterminate wheat. Fall sown timothy in good condition and red clover and pastures were never better. Oats late sown, but are starting off very well. Corn and potato planting about finished and preparations for cow pea sowing are under way. The frosts before referred to banished all hope of a fruit crop. Live stock wintered in good condition and go into pasture easily. While this is not specially a stock raising country, yet farmers carry enough cattle and hogs to use up feed crops grown on the farm. No hog cholera here for many years. Prices on all products satisfactory, except on wheat. Poultry raised more or less extensively on every farm and a few fanciers who raise high-scoring fowls.
Evansville, Ill. S. H. MANN.

Soil adapted to growing fruits and vegetables, grain and hay, stock and poultry. Plenty of stock and poultry for home use. Frosts killed about half of the strawberry blooms, but a good crop; the berries are larger; about 50 per cent. of a crop of peaches and cherries; 75 per cent. of apples; pears almost a failure; wheat and grass damaged by late freezes and bugs; crop below average; clover good. Farmers in good spirits and doing well; are setting large acreage of strawberries, raspberries and blackberries, melons, rhubarb and asparagus and sweet potatoes. Oats fine; planting corn. Farmers feeling good. W. L. ESTES.
R 1, Frankfort, Ill.

A great fruit growing and vegetable raising country. Spring backward and cold. Heavy frost on the 1st inst. damaged all fruit and vegetables; even killed leaves on hickory and sassafras bushes in the timber. Wheat poor, about half crop; oats short on account of late sowing. Apples about half crop; peaches nearly all killed. Principal crops are corn, wheat, oats, timothy, cow peas; some alfalfa sown this spring. Poultry in good demand. Stock generally in good shape and farmers prosperous.
Carbondale, Ill. ROBT. A. BATSON.

No winter wheat grown; winter rye looks fine. Spring sowing of oats looking good. No spring wheat, rye or barley sown. Fruit prospects good, except early strawberries, which were frozen. No hog, sheep, cattle, poultry or horse disease prevalent. Good crop of pigs and sheep. Spring pasture usually good. Clover and timothy excellent. Farmers ready to plant large acreage of corn. Work well in hand and farmers well satisfied with prospects. Enough moisture; too cool. All look for good season. Large acreage of clover and timothy sown this spring.
Roscoe, Ill. E. V. HARTMAN.

Weather cold and dry; the first rain since March fell May 13th; wheat, oats and timothy damaged by dry weather; wheat rusted considerably; clover looking fine; fruit crop damaged; peaches nearly all killed. Gardeners have lost tomato plants and beans by late frost. Farm work well advanced, owing to cool, dry weather; corn mostly planted on the hills, and coming up; none planted in the bottoms; corn coming up seems to be a good stand where the ground is well prepared; where cloddy, will have to be planted over. No hog cholera in this vicinity. Stock all in good condition. E. E. HUNT.
Ridenhower, Ill.

The above postal secures a $1 prize.

Following a wet winter we had several days of warm weather, then about six weeks of generally cold, dry weather; now warm but still dry. Corn planting is well begun; more oats than usual were sown; grass and wheat being greatly damaged by chinch bugs and need of rain. MRS. C. SHEARER.
R 2, Mt. Carmel, Ill.

In this part of Illinois the weather and soil have been very unfavorable until recently. The incessant heavy rains last season made the soil hard to prepare for spring crops. Winter wheat and rye look well, what little was sown; oats and corn are the only spring grains raised here of large acreage; oats look fairly well; corn not much planted yet. The vegetable outlook is poor at present, but fruit of all kinds except peaches, are promising a fair crop. Horses and cattle are plentiful and sold at reasonable prices, but hogs and sheep are high and scarce; hogs are in healthy condition, but like sheep raising, have been neglected some the past few years. Poultry is plentiful and in good condition, but is also high priced in large markets. The general outlook for grain crops this year are not so good just now as they were last spring, yet may come out all right. JNO. D. SMITH.
Mackinaw, Ill.

Dairying the principal industry with farmers; country dotted with creameries and condensed factories; a new one being built here now. Soil rich prairie and clay upland. Farmers are planting corn now, of which there is a large acreage planted, as this is the principal crop here for keeping dairy. Small grain looking very fine; mostly sowed two weeks later than usual, owing to wet weather; new seeding looking fine; promise of a large crop of hay. Farmers mostly prosperous and well-to-do. Weather rather cool for corn; no rain for the past three weeks. Farm help very scarce. No hog cholera; hogs mostly given free range on clover.
Harvard, Ill. LEE GROVER.

Season late; very little plowing having been done until May; had frost the first four nights in May; ground very hard from the March and April downpours. A few oats mudded in early, and looking yellow; most oats sown are just up; fall and spring seeding looking good so far; wheat fields are alive with chinch bugs, and prospects for corn are not encouraging. Strawberries, the money crop, late on account of May frosts, but prospects still good; other fruit will be scarce excepting possibly grapes and plums. Poultry hatches averaging poor. No hog cholera, and all stock healthy. Good crop of spring colts; pigs scarce. Weather fine; corn planting begun. MRS. G. E. COON.
Farina, Ill.

General farming carried on; farmers greatly interested in building telephone lines; entire county soon to be connected. Farm work backward; hands scarce. Early fruits generally killed; apple prospects good; oats sowing just finished; very little corn planted; wheat crop looks fair; pastures backward; timothy meadow fair; clover good; cow peas becoming more popular every year. Horses scarce. Prospects are encouraging for all kinds of live stock. Weather dry; ground plowing up cloddy.
Birds, Ill. W. H. FRITCHEY.

Indiana.

Season two weeks late; May frosts killed nearly all tree fruits. Growing wheat, rye, clover, timothy and pastures looking fine; oats late sowing, too wet spring; pig crop 80 per cent.; colt, mule, calf and lamb 100 per cent. Large corn crop being planted. No hog cholera; all stock healthy. Interest 6 per cent.; money plenty. Farmers feeling good and making many improvements. Some use commercial fertilizers on wheat and make it pay. Land advancing in price. L. A. STOCKWELL.
Cloverdale, Ind.

Everything is needing rain. The wheat looks well, but growing slowly; oats are up nice; almost useless to work corn ground, yet trying to; ground that was plowed wet cannot be worked right at all; it is so dry and cloddy. Some corn planted. Most all fruit was killed by the late frost. Horses are high in price and all stock in fairly good condition. Poultry doing well. Farmers are not expecting a very favorable season.
R 31, Swayzee, Ind. OSCAR HAYNES.

Good prospects for wheat, but not for oats, sowed late, on account of wet weather. Very few meadows. Some farmers through planting corn; others have not finished plowing, and some of the ground so dry that it can hardly be gotten in order to plant. Poor show for fruit; killed with late freeze and frost; will be a few apples. Live stock plentiful and in good condition, except hogs. This county has not been clear of cholera this winter or spring. Lots of poultry raised in this county, and in good condition. Lots of young colts this spring. Hands in good demand at fair wages. Farmers are not looking for as prosperous a year as last.
Liberty, Ind. S. W. VANAUSDALL.

Good agricultural section. Wheat (winter) condition fair; much of it in low lands drowned; oats poor; small acreage sown, all very late; corn planting delayed two weeks on account of heavy rains; acreage of corn will be large unless drought interferes with planting, a thing which seems probable. Meadows fair; pastures good; clover fine; stock in good condition. Some hog cholera in a few localities. A large crop of spring pigs. Fruits, all small varieties very much injured by late frosts; peaches (seedlings) fair crop. Bad spring for young chickens; poor hatches and weak birds are general complaints. County now improving a system of roads. Bright outlook.
Washington, Ind. J. M. VANCE.

Warm March and cool April; May 1st mercury at 25 degrees; fruit hurt by frost. Wheat and grass promising a good crop. Oats all sown. Pasture plenty; stock doing well; clover singed by frost; corn planting begun; medium crop will be planted. Poultry not doing well. We like the P. F.; think it the best of all farm papers.
R 4, Logansport, Ind. J. P. SMITH.

The above postal secures a 50-cent prize.

Weather dry and recent frosts killed half the fruit. Oats sown and corn planting in progress. Farming the chief industry. Wheat and hay prospects are fine. No hog cholera in this section. DANIEL ELY.
LaGrange, Ind.

Weather very fine early but later blustry and cold, with heavy frosts; fruit mostly killed; some plums, apples and strawberries not killed, but not more than one-third crop. Wheat generally looking well; more than an average for this time of year. Plowing mostly done for corn and some corn planted, but season rather backward. Meadows and pastures not doing much good. Ground plowed hard and tough, but pulverizing very well if done while fresh. No cholera among hogs. Market lowering. There seems to be lots of young pigs and doing nicely. Horses high and scarce; cattle low and seemingly plenty. Considerable old corn in crib. We have a ready market for everything grown on farm.
Lapel, Ind. MARION SEARS.

Wheat looks well except where early sown, which was infested by fly. Clover sown in 1902 looks well, but 1903 late sown is bad; early sown good but needs rain; oats not doing well, too dry; potatoes long coming up, as weather has been too cool; corn mostly planted and coming up; ground hard to get in order, as the ground did not freeze much during winter. Garden stuff looks well. Beef cattle and hog raising the main go here in stock raising; poultry doing well. Prospect fair for apples and some peaches, but not good for cherries and plums; good for raspberries and blackberries. ELI WISE.
Delphi, Ind.

The above postal secures a 50-cent prize.

Early sown wheat good; much of the late sown a poor stand; rye good, but little sown; oats prospects very poor; too wet and cold early, now too dry. Ground plowed very hard all spring; that not worked down at once now a mass of clods; conditions for a corn crop favorable on prepared soil, but little planting done yet. The hard freezes of the last of April and first of May killed much of the fruit; there will be some apples, pears, peaches and plums, but early cherries all killed. Many hogs and sheep raised; some horses and cattle; all in good condition. Much attention given to poultry, especially for eggs, which are shipped out in large quantities.
Columbia City, Ind. ALBERT BUSH.

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Do You Get Up With a Lame Back?
Have You Uric Acid, Rheumatism, or Bladder Trouble?

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Pain or dull ache in the back is unmistakable evidence of kidney trouble. It is Nature's timely warning to show you that the track of health is not clear.

If these danger signals are unheeded, more serious results are sure to follow; Bright's disease which is the worst form of kidney trouble may steal upon you.

The mild and the extraordinary effect of the world-famous kidney and bladder remedy, Dr. Kilmer's Swamp-Root, is soon realized. It stands the highest for its wonderful cures of the most distressing cases. A trial will convince anyone—and you may have a sample bottle free, by mail.

Backache, Uric Acid and Urinary Trouble.
Among the many famous cures of Swamp-Root investigated by The Practical Farmer, the one we publish this week for the benefit of our readers, speaks in the highest terms of the wonderful curative properties of this great kidney remedy.
DR. KILMER & Co., Binghamton, N. Y.
GENTLEMEN:—When I wrote you last March for a sample bottle of Swamp-Root, my wife was a great sufferer from backache, rheumatism and urinary trouble, also excess of uric acid. After trying the sample bottle, she bought a large bottle here at the drug store. That did her so much good she bought more. The effect of Swamp-Root was wonderful and almost immediate. She has felt no return of the old trouble since.
Oct. 1902. F. THOMAS. 427 Best St., Buffalo, N. Y.

Lame back is only one symptom of kidney trouble — one of many. Other symptoms showing that you need Swamp-Root are, obliged to pass water often during the day and to get up many times at night, inability to hold your urine, smarting or irritation in passing, brisk-dust or sediment in the urine, catarrh of the bladder, uric acid, constant headache, dizziness, sleeplessness, nervousness, irregular heartbeating, rheumatism, bloating, irritability, wornout feeling, lack of ambition, loss of flesh, sallow complexion.

If your water when allowed to remain undisturbed in a glass or bottle for twenty-four hours, forms a sediment or settling, or has a cloudy appearance, it is evidence that your kidneys and bladder need immediate attention.

In taking Swamp-Root you afford natural help to Nature, for Swamp-Root is the most perfect healer and gentle aid to the kidneys that is known to medical science.

Swamp-Root is the great discovery of Dr. Kilmer, the eminent kidney and bladder specialist. Hospitals use it with wonderful success in both slight and severe cases. Doctors recommend it to their patients and use it in their own families, because they recognize in Swamp-Root the greatest and most successful remedy.

To Prove What SWAMP-ROOT, the Great Kidney, Liver and Bladder Remedy, Will do for YOU, Every Reader of The Philadelphia Practical Farmer May Have a Sample Bottle Absolutely Free by Mail.

If you have the slightest symptoms of kidney or bladder trouble, or if there is a trace of it in your family history, send at once to Dr. Kilmer & Co., Binghamton, N. Y., who will gladly send you free by mail, immediately, without cost to you, a sample bottle of Swamp-Root and a book of wonderful Swamp-Root testimonials. Be sure to say that you read this generous offer in the Philadelphia Practical Farmer.

If you are already convinced that Swamp-Root is what you need, you can purchase the regular fifty-cent and one-dollar size bottles at the drug stores everywhere. Don't make any mistake, but remember the name, Dr. Kilmer's Swamp-Root, and the address, Binghamton, N. Y., on every bottle.

Corn, usual acreage; seed bed very difficult to prepare; very cloddy; one-fourth planted; oats, largest acreage ever sown; looking well; wheat, smaller acreage than usual, but so thrifty that some has been pastured; clover sown last year very fine; this spring's sowing mostly killed by late freezes; fruit mostly killed; some apples, peaches and plums. Excellent pastures and meadows; much larger acreage than usual of peas, sweet corn and tomatoes for canning factory, and contracts specify their prices. Farm hands scarce. Less hogs than usual; pig crop short and greatest demand for feeders, 75 to 125 lbs., ever known; some cholera; usual number of cattle; sheep dying with grub in the head. More interest in horse breeding than ever before. DAVID N. KEMP.
Kempton, Ind.

Farmers a full week behind with spring planting. Not more than one-half corn planted yet, and much of that in cloddy ground; dry and warm for the past ten days and ground breaking up in bad shape; wheat and oats usual acreage, with fair prospects for crop, but needing rain. Some are doing well with cows and silage here; but corn and hogs are the combination that most farmers rely on. Much building of electric roads through Central Indiana has made farm help scarce and wages out of reach of farmers. Freeze of May 1st spoiled a good prospect for cherries and pears, but there is still a fair one for apples and berries. Some have tried cow peas and soy beans here on the 40th parallel and find them a good thing, but red clover is at home here and is the only legume grown on most farms. It came through the past winter in good shape. FRANK MOFFIT.
Carmel, Ind.

The wheat crop is very promising, and old clover is looking fine, but the continued dry weather is hurting them and has greatly injured the spring sown clover and oats. Corn is planted where there has been sod broken, but other ground works hard and cannot be gotten in order to plant it until it rains. The prospect for fruit of all kinds was good, but the late frosts have injured until there will not be half a crop. Cattle feeding is a very poor investment; few are feeding and they are losing money. Hog market has been very high and feeders scarce and hard to get, but is lowering now. Good demand for poultry. Farmers are expecting the stock markets, especially cattle market to be better, and are looking for a prosperous season, as rain now in a few days would bring things out wonderfully. J. W. SEARS.
R 4, Pendleton, Ind.

The late freeze has damaged fruit badly. The cool, wet weather of April retarded farming two weeks or more. We have in Boone county one breeder of Hereford, two of Polled Angus and one of Shorthorn cattle. Horses high in price. Butter made and delivered for family use. Weather at this writing fine and farmers busy. J. W. SHIRLEY.
Lebanon, Ind.

Health is good and farmers prosperous generally. Farm products a good price; land advancing in value. Spring wet and cold; most fruit destroyed by a killing frost of 4th inst. Prospects of a good hay crop; a short acreage of oats was sown on account of the excessive rainfall in April. Wheat was damaged some by water and some by fly, but still expect an average crop. A wet winter damaged corn in field, much not being gathered until March. A strange hog disease appeared in early spring, in effect like indigestion, we think from eating damaged corn; it proved fatal if no relief came soon, and many pigs were lost at farrowing time; no cholera that we have heard of; cattle are looking well. Poultry raising is a growing industry; the Plymouth Rock breeds seem to predominate. J. T. GILLIBRAND.
R 1, Westport, Ind.

Land fertile. The high lands unsurpassed for fruit and berries; many thousand blackberry, raspberry and strawberry plants being set out each year; fruit trees and berry canes damaged by locusts last season, and this spring fruit and berries by late freeze of May 1st to 3rd; may possibly be one-half crop. Spring work very much retarded by cold and very wet weather. Acreage of oats smaller than usual and early potatoes being late in planting; wheat and rye looking well and grass and clover doing nicely. Last few days warm and favorable and corn planting being rushed. Farms usually small, being from 10 to 100 acres. Population chiefly of German descent. Roads well graded and gravelled. Rural route established; no telephones nearer than three miles. Stock of all kinds healthy and in fairly good condition. No cholera among the hogs reported. An increased interest in poultry being developed. Prices of farm produce good. Hogs scarce and high priced. Cut worms and potato bugs reported in great numbers. Farmers hopeful and energetic. MRS. H. L. ATKINS.
New Albany, Ind.

Country naturally adapted to general grain and stock farming. This part of the State is well supplied with good roads, markets, schools, churches, etc. Farms are generally well improved. Wheat and grass look fine; early sown oats doing well; corn planting delayed by wet April. Weather dry at present. All live stock wintered well. Hogs are healthy; crop of spring pigs short. Prospect for future good. Farmers contented.
Scipio, Ind. W. C. MOVEY.

A large body of good land. Are well supplied with railroad and free mail service; have a good prospect for fruit this year, especially apples and cherries. Wheat sown in corn looks well, especially that not sown too early; that sown after oats not so good. The present oats crop looks well; that sown where corn grew last year and drilled with a disk drill (ground not plowed) looks best; some corn planted; plowing mostly done. No hog cholera near us. Prices of produce good. Season so far has been wet; at present dry. L. H. COBLENTZ.
Jordan, Ind.

Ohio.

We have had our May weather in March, developing fruit buds, starting grass and winter grain wonderfully, then came our March weather in April, with cold rains and snow and hard freezing. Never saw as much rainfall in April; now we have our April weather in May; no rain in two weeks, with cold north winds blowing, drying up ground fearfully, with cold nights and cloudy days, growth is retarded but in spite of all the outlook for fruit is very good; apples, pears, plums, peaches and cherries seem to pay no attention to cold or frost, but go right on. Wheat is finer than it has been for years; oats are up and look well; not much corn planted yet; meadows look well; the general outlook is better today for farmers than it has been for years. One drawback, and a serious one, is the scarcity of good farm labor, hence a great lot of land is seeded down and cattle take the place of the harvest hand. The general feeling of the farmers is hopeful. J. H. BOLLINGER.
R 1, Girard, O.

Farms and farmers in this section are up-to-date and everything is looking well, considering the rather backward spring. There will be an immense wheat crop if conditions continue favorable. A large corn crop is being planted, and meadows and pasturage are fine; oats were sown later than usual, owing to the wet season. There is a fine prospect for all kinds of fruit except peaches, which were mostly winter-killed. There will be an abundance of fine strawberries, raspberries, etc. Stock in general looks well. Hog cholera is practically unknown here. Dairying and poultry raising comprise a paying industry, as market prices for everything are high. Farmers are wide awake and generally prosperous and contented, and are encouraged to believe this will be a prosperous and profitable season. MRS. ADA PARKER.
R 1, Athens, O.

Wheat looks fairly well; early wheat somewhat injured by April freezing; new grass in wheat looks fair; oats are up and growing slowly for want of rain; corn about half planted; clover meadows mostly killed by frost; timothy meadows are fairly good; tobacco beds are all sown and mostly up. Farmers are planning for a large tobacco crop. Some garden truck and potatoes are up. Early apples and cherries are mostly killed, but we expect considerable fruit. Poultry is receiving much attention now. Some incubators are used. Stock is being turned out on pastures; is in good condition and sells for high prices. We never have hog cholera and are but little bothered with any disease of stock. The farmers, as a rule, are intelligent and are studying and working to make this a prosperous year. We need rain badly; have had but little since the early part of April.
Somerton, O. HERMAN SKINNER.

This is a good farming country; most farmers up-to-date in farming methods. Weather very dry and cool, with occasional frosts. Land well adapted to wheat, corn, oats and hay; wheat is looking fine; oats not so good on account of cold and dry weather. Meadows doing finely. Farmers are very late in planting corn, as the ground was hard to plow and prepare for planting; too much rain and not enough spring freezing thought to be the cause. Some corn planted; nearly all garden truck planted; potatoes coming up nicely. This section is well adapted to all Northern fruits. Raspberries, blackberries and strawberries being raised in large quantities; early cherries and peaches are killed. Good prospect for apples and small fruits. Farmers have turned stock on grass. Stock not looking very well, as rough quality of feed was poor. No hog cholera; a good many hogs and cattle fed out in this section; poultry raising is carried on on a large scale with good profits. B. L. PHILLIPS.
R 1, Lancaster, O.

Very little wheat and rye sown, but is very good; promises better than any the past 7 years. Small acreage of clover and timothy sown, but promises good. Large acreage of oats sown, but damaged by heavy rains; some resown. The fruit is greatly damaged as a result of 3 hard freezes, May 1st, 2nd, 4th, except late apples. There is a medium supply of hogs. Beef cattle and calves in good supply. Fulton is a cheese producing county with large numbers of cows. Farmers active, making improvements on all lines. Preparing soil, hauling manure for corn and expecting a prosperous season.
Swanton, Ohio. C. K. KELSEY.

Cold and wet spring. Usual acreage of rye sown and corn ground being prepared. About one-half the usual amount of wheat and oats sown. Wheat looks well; oats and rye poor; fruit badly injured by late frosts; clover looks fine; timothy hurt by chinch bugs; tobacco plants good.
Bethel, O. MRS. CHAS. A. FAGLEY.

Wheat looking yellow, probably caused by so much rainy, cold weather. Very little other winter crops grown here. Oats sown later than usual. Farmers just commenced planting corn, but a great many waiting for rain, so ground can be got in good order. Fruit neglected; orchards badly run down; peaches killed, but will have some apples and other fruit. Stock scarce and high. No hog cholera, and stock generally free from disease. Everything suffering for rain, and unless we get it soon wheat and grass will be seriously damaged. WM. C. GRAHAM.
Cedar Mills, O.

Spring work back on account of wet weather in early spring. Is now dry and plowing hard. Winter wheat looking fairly good, some injured by late freezes. Selling at 70c. per bu. Some corn planted, and still some plowing to do. Selling at 45c. per bu. Oats up early, looking well, too dry for late. Potatoes nearly all planted. More planted this spring than usual. Grass coming on slowly. Hay promises about an average crop. Stock hardly in as good condition as usual, especially cattle. Farmers generally have had enough feed. No hog cholera. Fruit of all kinds badly injured by late freezing; crop will be light. Farmers are looking and working for a prosperous season, and are in general good spirit.
Wooster, O. D. O. SANDAW.

Spring has been cold and backward. Wheat and rye looking well; meadows need rain badly; farmers planting corn, an increased acreage; ground hard to get in shape. Stock wintered well generally; fruit prospect fair; much poultry is raised and shipped; many farmers trying alfalfa raising; no hog cholera or other stock contagion. A very short maple syrup season; many sugar camps in this section. Farm help scarce. Oats put in late, and decreased acreage, on account of wet weather. Farmers hopeful for a successful season.
Alexandria, O. V. C. STIERS.

The winter crops look well out here. Some have not sown their spring seeding yet, but wheat is sown looks very fine, I think. The general agricultural outlook is very fine, except for the oats, they are a little backward; grass looks good. Fruit conditions fine; apples good, but we are afraid the frost has killed the strawberries, though the plums, cherries and grapes look well, and generally the fruit prospects are good. Farmers are looking and working for a prosperous season.
Woodford, O. M. T. JORDAN.

The above postal secures a $1 prize.

Land varied bottom next river, plains and hills as you go back from the Tuscarora River. Soil fairly good and well tilled; corn planting in order now. Swiss cheese made in large quantities. Good barns and houses. Horse scarce; some colts being raised. Much coal being mined in this vicinity.
New Philadelphia, O. D. H. MEREDITH.

Weather during the month of April very unfavorable for much progress in farm work, and the cold weather has retarded the growth of crops; only about 75 per cent. of the corn crop planted and the acreage will be an average; wheat and rye promise a large yield with a good acreage; the acreage of oats is not so large as the 1902 crop, and much of the acreage was planted wet and in poor condition; the acreage of truck gardens this season is far above the average. Fruit conditions are not so good, and we cannot look for more than 50 per cent. of a crop. Stock of all kinds is selling high and is in good demand; stock hogs are scarce, and free from cholera, and high in price. Dairies are doing a big business, and poultrymen are enlarging their plants throughout this section; in fact, we farmers are looking forward to 1903 being Hamilton county's most prosperous year. Pastures and meadows of timothy and red clover are looking well and stock of all kinds is in good good condition. H. WALTER WALLACE.
Cincinnati, O.

MIDDLE WEST.

Iowa.

Have not lost any hogs from cholera, but hundreds died here last fall, some within 60 rods of my pen; no cholera at present. The frost of last week injured some of the early vegetables and fruits, but no material damage done. Winter sown crops comparatively small, owing to so much rain; spring seeding has been retarded also to some extent but is growing well now. Corn is being planted now, which is our most important crop. J. E. PETRIE.
R 4, Indianola, Ia.

The past fall was very wet and ground was full of water this spring. Since farming has commenced the weather has been fair for getting spring crops in; not much fall grain sown around here; corn is the main crop; oats, wheat, rye, potatoes, timothy and clover make fair average crops; blue grass is the pasture grass; stock mostly in fair condition this spring. Most all fruit seems to be hurt some by the late freeze. Plowing is mostly done and corn is being planted. The prospect for farm crops is good. Farmers mostly prosperous. ALBERT HAMILTON.
Bedford, Ia.

Kansas.

The general agricultural outlook in this neighborhood is very good. A large acreage of winter wheat was sown and the wet spring has been very favorable for it. Most of the oats and flax look good, and a good stand of clover was secured. The season was unusually wet until April 20th, since then we have had no rain until May 6th. About 50 per cent. of the corn is planted and promises a good stand, and I never saw pastures better at this time of year and a large hay crop is assured. April 25th, also May 3rd we had a pretty heavy frost, which damaged the strawberries and early gardens, but the prospect is good for a crop of other fruit. Live stock, as a whole, came out of the winter in good condition and are doing finely on pasture. Farmers are cheerful and looking forward to a bounteous harvest.
Moran, Kan. T. E. WHITLOW.

The spring has been very wet and cold. Wheat is in fine condition; clover and alfalfa growing nicely; pastures a little late, but doing well now; corn planting about two-thirds done; has been too wet to plant for ten days; early planted cut by frost; later planting coming up good; flax and oats not as forward as usual. Farmers have more hogs than last year; no hog cholera here for several years; plenty of cattle; a good many cattle last winter, but not much made on them, on account of wet weather. Prospects for this year are good for everything but fruit, which was mostly killed by the freeze of May 1st; several large apple orchards in vicinity, of hundreds of acres.
Lane, Kan. AMBROSE WHYTAL.

Winter wheat fair; oats damaged by cold; some being plowed up and put to corn; hard freeze April 29 and 30 killed fruit, except late apples and berries; mulched strawberries will make one-half crop. Corn about half planted. Heavy rains 11th, 12th and 13th inst. No more corn planted this week; pastures needed rain; now need warm weather. Potatoes look good. Farmers losing one-half to two-thirds of their pigs; improper feeding the cause. All contented and expecting continued prosperity. W. W. JONES.
Oneida, Kan.

The above postal secures a $1 prize.

Large acreage of wheat sown; none plowed up; no fly in this section; condition of wheat in this county 100; spring rather late, wet and cool; corn slow about coming up; all planted oats looking fairly well, but too cool to grow much; too wet and cool to sow or plant Kaffir or cane seed; potatoes all planted and coming up slowly; grass in pastures coming on fairly well; alfalfa doing well; a large acreage in this county. We had a severe storm here on April 29th, ending in snow and sleet and a hard freeze; mercury 25 degrees; nearly all fruit buds killed; may be some late varieties of apples alive. Cattle in very good condition; poultry rather scarce and high; no young chickens on the market yet. Farmers much elated over the prospect for a large crop of wheat and not much reason to complain about anything.
R 1, Glen Elder, Kan. J. E. BARNES.

The above postal secures a $1 prize.

Weather cold; had a cold rain after four weeks drought; a freeze and three white frosts, killing the beans, tomatoes, sweet potatoes and Irish potatoes to the ground last week in April and first part of May; peach crop about 25 per cent. apples were damaged badly, about 50 per cent. Wheat damaged some but cannot tell how much. It was looking more than an average; corn and oats are backward; cattle and horses are going on pasture looking well. Poultry has done well here this spring. The canker worm has done some damage to the apples. Many are spraying. All kinds of stock are healthy. J. M. TAYLOR.
Belle Plaine, Kan.

S. E. Kansas had wet, muddy winter; spring has also been wet and cold; farmers away behind planting. Hard frost May 1st; much fruit killed; would have had large crop; peaches appear to have borne the cold best; wheat wintered badly and looks very "sorry;" oats only medium; small acreage sown; about one-third of the corn planted; gardens need warmer weather; no yields from them yet to speak of. Health among stock generally good; scratches or "mud leg fever" among horses during winter; some cholera among hogs last winter; none now. Farmers in very good spirits notwithstanding late season. R. H. JOHNSON.
R 7, Parsons, Kan.

A large acreage of wheat was sown last fall; most of it came through the winter in good shape and there never was a better prospect for a record breaking crop in this county. A cold, backward spring retarded oat sowing and cut short the acreage 25 per cent., but that sown is growing well. We list corn here and it is planted, but has been slow to germinate because of cool weather; however, I know of no one having to re-plant. The first crop of alfalfa is almost ready for the mower and will be a heavy yield. The acreage of this crop is being rapidly increased. Fruit badly damaged by cold wave of April 28-30; apricots all killed; peaches, cherries, plums, etc., will make a half crop; apples alone seem to be unhurt. Pastures backward, but stock doing well. Horse quality greatly improved in last four years. No hog cholera, and about the usual number of hogs in the country; not many sheep kept hereabouts; there is a marked tendency toward improvement in all grades of stock. The ground is thoroughly soaked and farmers are generally prosperous, and on the whole the outlook for this season is very flattering.
Newton, Kan. A. SOUDER.

Michigan.

Principal crops are corn, oats, wheat, barley, sugar beets, rye, buckwheat and beans. Spring work backward on account of wet weather. Land worth $5 to $5.75 per acre. Crops were not very good last year on account of wet weather. Wheat is good; oats are in; corn ground plowed. The P. F. is an excellent paper for farming.
Eastwood, Mich. WALTER H. FOX.

Spring cold and backward; snow to cover the ground the 30th of April. Farming backward; oats not all sown yet; fall sown crops look fairly good; this spring has been a hard one on them; if nothing happens to them from now on there will be 75 per cent. of a full crop; fair prospect for hay; not much seeding being done this spring.
LeRoy, Mich. A. E. EASTWAY.

Winter wheat and rye are in good shape; clover very heavy growth, new seeding and old. Peach buds winter-killed; strawberries killed by May freeze; cherries and plums badly injured; will be very few apple blossoms. Horses and hogs very high. Good crop of spring pigs; stock cattle plenty; but few sheep. Farmers are very hopeful and enthusiastic, putting in all crops possible; are expecting a profitable year. Farm work well advanced. W. H. SEELYE.
Ann Arbor, Mich.

Winter wheat looks good; oats were sown in good season; need rain to push them forward; ground is very hard and dry (clay soil); ground will be ready to plant on time. Sugar beets are being sown; prospects for fruit are generally good, except some very early varieties that were caught with the late frost. Hog cholera is little known in this section; no contagious diseases prevailing among live stock of any kind. The only drawback is lack of help. Farmers are prosperous and are depositing money in the banks. All look for a banner year.
Corunna, Mich. B. C. GRANT.

The above postal secures a $1 prize.

Winter crops came through all right and promise well. Late rains delayed spring seeding; but work has gone on cheerfully. Stock wintered nicely; looks well. Late frosts have caused some doubts as to the early peaches, cherries, plums, etc., still many think no great harm has been done. No hog cholera; all stock healthy. Farmers are especially hopeful and cheerful. Farm hands are higher than for years. C. W. STEPHENSON.
Adrian, Mich.

Wheat came through the winter in good condition and there is a prospect of a good crop; oats are looking well in spite of being put in late on account of a cold, backward spring; clover sown this spring is not coming up well, or was killed after sprouting, by the late heavy frosts, which hurt old seeding and also did much damage to early fruit by reason of which there will not be more than half a crop. Strawberries and early cherries suffered most. No hog cholera or other stock disease prevailing. E. D. STEVENSON.
Ballards, Mich.

Winter crops looking fine. Spring crops fair; weather favorable except past two weeks very dry; much corn planted; hay grass doing well; more clover now than in past 8 years; much seed sown this spring; oats a large crop sown; doing fair; fruit prospect uncertain, as froze on May 6th; small fruit plentiful. Stock and poultry in good condition and healthy. No hog or chicken cholera reported. No fly in grain. No sheep disease. Farmers feeling as though the coming year will be up, to if not better than the average. Farm work slow. FRANK E. ROUGH.
Constantine, Mich.

March warm; April cold and wet; May so far, cold and dry. Oats sowing finished in April; about the usual acreage sown. Ground being fitted for corn; more than the usual area being planted; much of it will be drilled for silo filling. Fruit prospects good, except peaches and possibly plums. Wheat on ground good, but not much sown last fall. We are fast drifting to stock growing and dairying. No hog cholera, but quite a hog scarcity. Farmers are feeling happy and satisfied with the present and future prospects. BRAD. L. HUBERT.
Parma, Mich.

Very mild winter, with plenty of snow, which kept winter crops protected; wheat, rye and clover wintered well; meadows and pastures growing up slowly on account of cold weather this spring. Peach buds all right yet, and farmers feeling good over bright prospects for a big peach and apple crop. Oats and early potatoes about all in and plowing for corn has commenced. Stock looking fairly well, although a little thin.
R 3, Ludington, Mich. B. W. TAYLOR.

Minnesota.

Rye only winter grain sown; looks very good; hardly any winter-killed; spring seeding completed a week ago, and frequent rains and warm weather make every seed grow. Hay will be a heavy crop; corn not planted yet. Stock came through the winter in good shape; plenty of feed and shelter; some pasture already; no hog cholera here. Good horses bring high prices; very few sheep raised. Creameries prosperous, and poultry raisers report good business. Prospects are for a good crop the way things look at present.
Lake Elmo, Minn. FRED C. WICHELMAN.

Missouri.

Less winter grain than usual was sown last fall; what there is looks well. Last winter was mild and plenty of feed for stock. Pasture came early and stock was turned out to grass April 10th, but last half of April and early part of May has been very cool, with several frosts, retarding the growth of vegetation and probably killing most of the fruit. No hog cholera here, nor other epidemic disease of stock. Poultry products are a great factor in our prosperity, turkey raising especially being quite profitable.
Green Castle, Mo. B. O. TERRY.

Fruit trees laden with well set fruit; garden truck well started; strawberries in blossom and some fruit set; blackberries, raspberries, currants, gooseberries and blueberries look fine. Corn planting nearly all completed, with some up; were delayed by wet weather, especially on the prairie; wood land one week earlier; oats look well, with a fair prospect for a good harvest. Wheat hurt by last freeze, and looks yellow; potatoes up and growing well. A great mule country; a great many cattle fed here in conjunction with hogs; brood sows high. Grass looks well. We raise timothy and clover and some alfalfa. W. B. MCCORD.
Wheatland, Mo.

The above postal secures a 50-cent prize.

The spring here has been unusually cold and wet. Frost at frequent intervals through April; on May 1st the mercury went down to 23 degrees and ice formed thicker than common window glass. Apples will make less than one-sixth of expected yield; grapes and strawberries badly injured. Drizzling rains continue to retard farm work; oats acreage greatly reduced. No flax sown; corn planting progresses slowly. Soil generally in bad condition, owing to excessive rains; meadows and pastures look well. Farmers have abundance of feed, the result of last year's magnificent crop, and view the situation philosophically. No hog cholera in this neighborhood, but there have been a few cases of blackleg among cattle. JAS. N. HOWLAND.
Windsor, Mo.

We had an open, wet winter, though cold enough once to freeze all peaches; not much winter wheat sown, and that late; looked poorly until lately it is coming out fine; late, wet spring; not as much oats and flax sown as usual; corn planting about half done; much plowing to do yet; ground soaking wet; some will be left for wheat next fall, which is unusual here. Heavy frost on May 1st killed some strawberries and all grapes in some places; there will be plenty berries. Clover is fine. Farmers are in good spirits.
East Lynne, Mo. GEO. HOSTETLER.

Winter wheat, rye and oats are in poor shape; winter-killed and damaged by fly; spring oats fair; meadows good; corn coming up fairly well; gardens and potatoes backward; fruit prospects small; apples, one-half crop; peaches, one-tenth; small fruit still worse. The live stock business in good healthy condition. Farmers have the blues on account of wheat, which is the money crop here. Corn going in in good shape; soil in fine condition for working.
Alice, Mo. E. N. CASEBEER.

The above postal secures a 50-cent prize.

Weather wet and cool early, but dry and cool of late. Apples light crop; strawberries damaged by frost 50 per cent.; peaches very light; wheat poor prospect; oats the same; corn not all planted; very little up and it frost bitten; early beans and potatoes bitten by frost; timothy poor; clover fair. Stock hogs high and hard to get. Work has been pushed all the weather would permit. General outlook not good among farmers.
Marionville, Mo. W. E. CROSS.

The prospects for this year's crops are good. Oats, etc., are fine; young timothy and clover are doing well. People are plowing and there is some corn planted. The condition of the soil is good, but we are having some wet weather and a late spring. The trees are heavily laden with blossoms and unless killed by the frost we will have an enormous crop, especially apples, cherries, plums, etc., but very few peaches. Farmers have finished planting their gardens and some have peas two inches high. Poultry of all kinds is doing well. There is not much sick stock. Help is scarce and hard to get.
LaBelle, Mo. B. P. WAGNER.

A freeze on May 1st did a great deal of damage to all kinds of fruit; apples, peaches, plums, cherries, blackberries, etc., nearly all killed. During a warm spell in the latter part of March oats were sown and some corn planted; but since then it has been unusually cool and dry; neither oats or grass are doing well; wheat will not make over one-half a crop; corn is all planted and coming up. The crop outlook in general is a little dark, but farmers keep digging away. Stock doing well; hogs scarce, with some cholera. The poultry outlook is good. W. R. GROVES.
Montreal, Mo.

Nebraska.

Wheat and alfalfa the only crops wintered here are in prime condition, as the frost never heaves these crops out of soil; the former crop is from 4 to 8 inches high, and the latter has made nearly a foot of growth, as there has been plenty of moisture. This is especially a stock country, although cereals often make a good yield. Area of oats small and the young blizzard of April 28 injured them some, as it did most fruit, although some blooms have come since that may produce. There were some cattle lost from result of storm. Farmers are very prosperous and hopeful. Alfalfa growing is being studied and experimented with in many different ways. Lots of poultry raised here.
Riverton, Neb. J. M. LANCASTER.

Never saw the ground in better condition than this spring; rather too wet for planting corn; about one-half planted up to date; fall wheat and rye never was in better condition; big acreage; some winter killed; fruit nearly all killed by freeze April 29th; spring grain all sowed and up, looks fine; the general outlook for a big crop is ideal for this part at present; quite extensive poultry raising here, the open winters make it right for the business. Stock of all classes in a thriving condition. Pastures starting nicely; alfalfa will be a heavy crop. The farmers are in a thriving condition, generally speaking, and are all very busy trying to keep their work up, as they feel good over the prospect for a big crop. J. E. GILES.
Oxford, Neb.

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Wisconsin.

Spring cold and wet. Spring crops promising; but little winter grain sown. Some clover winter killed. Hay prospect good. Rains and light frosts have done no injury. Tobacco and potatoes are raised here, also some fruit. Cattle in good condition; fat cattle scarce. Little pigs numerous and vigorous. Chickens will be raised more than usual. Few bees kept. Corn is being planted. Roads in bad condition.
Waunakee, Wis. H. B. HILLIER.

Winter sown crops and spring crops look fine. Fruit trees loaded with blossoms. Poultry is not raised to any great extent. A creamery here that receives from 14,000 to 15,000 lbs milk per day at present. Extra good farming land; it sells from $75, $100 to $125 per acre. Farmers are looking and working for a very prosperous season.
Chilton, Wis. MRS. JUL. FUGE.

The only winter crop now sown is rye, which looks good. All grains can be grown here. Corn, oats, rye and barley chiefly grown. All spring sown crops look fine. Hay promises a heavy crop. Farmers now planting corn. The farmers are looking forth for good crops and a prosperous season. Our farmers in general are prosperous.
Hazelgreen, Wis. CLYDE NECOLLINS.

We are enjoying lovely weather and farm work is progressing finely. Corn planting is under way, but farmers are having difficulty in getting fertile seed corn, due to immatured corn of last year. Winter sown grains are in fine shape. Hay will be an abundant crop. Fruit and berry prospects were never better. Stock is in fine shape since being turned onto grass. Chickens are improving and hatching is more successful than earlier in the spring. Hog cholera is unknown here and pigs are now in fine condition; sheep are in fine condition and shearing time will be soon; spring lambs are in good shape. This is getting to be a great sheep section; farmers are seeding down their places and going into the sheep industry, due to the scarcity of help. A great many full blooded Red Polled cattle are raised here. A. E. BILLS.
Richland City, Wis.

SOUTHERN.

Alabama.

Every man at work doing his best to make this a successful crop year. Small acreage of winter oats planted, doing well. April too cold and May too wet for the young cotton plants; the stand not good, and seed scarce to replant; the usual acreage of corn planted and the cow pea with it; sorghum, sweet potatoes, and ribbon cane also planted. Johnson grass fast spreading over the best black lands, which looks very luxuriant now, and nearly ready for first cutting. A poor fruit year; very few peaches and pears; more apples and plums. Hogs and cows found with every family; some few have smoked bacon for sale; beef cattle sufficient for local market. The season too wet for young poultry; turkeys raised for sale and chickens for family use. E. WYNN.
Marion, Ala.

Winter sown grain will be poor yield. Farmers generally do not prepare the ground well enough. This will be a short fruit year. Other crops promise to make a fine yield. Farmers are all looking for a very prosperous year. Very good gardens. A large acreage of corn planted. Cotton coming up nicely. Poultry in good demand and brings fancy price. All other produce the same. Hogs very scarce and high. Plenty of cattle. No hog cholera or other contagious diseases among cattle and hogs in this community. Farmers are taking more interest in raising good stock. Plenty of work at fair prices. Farm work mostly done by mules. They are in good demand at fair prices. Some good farm machinery used. This has been a late spring, but a few weeks of dry weather has put the farmers up with their work.
Gainesville, Ala. W. L. ROPER.

A healthy county. Well timbered and good well water. Winter oats and wheat doing well. Spring oats lacking rain, which is needed badly. Farmers later than usual from spring rains. But little land turned in fall or winter. Farmers generally feel hopeful of a good crop year. Corn and cotton main crop here, but too much cotton planted. Early cotton has been plowed up. The most of our farmers are through planting. More peas and sorghum sown for hay than usual. But little clover here. Peas are surer, and more profitable. Fruits. Nearly all peaches killed in bloom. About one-half crop of apples. Pears, plums, cherries and other small fruits will be scarce. Strawberries now ripening. Gardening late; some Irish potatoes blooming; mules high. Fine range for horses, cattle and sheep.
R 1, Athens, Ala. R. E. MCGREW.

A good farming country, but not up-to-date farmers, nor do they seem to be interested in farming at all, while it is the only way that we have of making a living. Most of us plant corn. I think if we could get the P. F. circulated here we would have good farming and plenty of it. W. M. MADISON.
Blount Co., Ala.

Arkansas.

The principal products of this county are cotton, corn, apples, cattle, hogs, mules and horses, cow peas, cottonseed, sheep, wheat, oats, potatoes, chickens and eggs, small fruit and vegetables of all kinds. The acreage for crops this year will be about as follows as compared with last year: Cotton, 120 per cent.; corn, 110; wheat 50; oats 100; cow peas 110; potatoes 100, with a small increase for fruit and vegetables; hogs are scarce and high; mules and horses are also high; cattle about an average; the prospects for apples and small fruit 100 per cent., and peaches 20 per cent. of a crop. Cow peas are plentiful, and farmers are raising more every year. This spring has not been very favorable so far; too cool, with frost on morning of May 1st, which has done great damage to cotton. Cotton nearly all planted; early planting up; corn looks yellow and is small for the time of year; oats look well; wheat will not make a full crop. Farmers are not discouraged.
Clinton, Ark. O. P. NIXON.

The above postal secures a $1 prize.

Too much rain from November to last of March; dry to May 7th; are having too much again; early crops damaged by the freeze of May 1st. All crops looking better since the rain. Very little small grain sown; poor fruit prospects; apples half crop; no peaches. Stock of all kinds doing fairly well, though several horses have died; cause thought to be worm-eaten corn; no special attention paid to poultry. There is an increased acreage being planted to cotton and cow peas; the latter crop is growing more and more in favor as a hay crop. Farmers are more hopeful since the rain, but may get "blue" again if it don't stop soon. H. C. BECHEL.
Bates, Ark.

Very little winter sown crops put in; spring sown crops looking rather slim. Peaches all killed; plums, pears and cherries will be a light crop; there will be a few seedling peaches; grapes are all killed, with clusters of grapes still hanging on the vines; apples bloomed heavily but the April 30th freeze has ruined them. Not more than one-third of a crop is expected. Early planted corn and potatoes have suffered very much also by the April freeze. Corn will be re-planted in many places. Spring very late. Farmers still planting corn. April dry and cold; May, so far, plenty of rain. Farmers feel the loss of their fruit. W. E. GREENE.
Rogers, Ark.

Prospect good for wheat, rye and oats; lots of corn to plant yet; some corn up. Several hundred acres of strawberries set out and are doing well; all trees set this spring have good start; peach crop killed by freezing in March; strawberry and black raspberry crops only one-third to one-half, because of late frosts; full crop of red raspberries and blackberries in sight. Rain retarding the picking of strawberries now. April crop about one-quarter to one-third the usual amount. Chickens are doing better than usual; no disease among any stock.
Springdale, Ark. CHAS. C. COTTRELL.

The spring was wet and backward, with a short dry spell, but now too wet again. Farmers behind with work. Fruit crop our main dependence; peaches all killed but a few seedlings; apples in valleys and low places done up on morning of May 1st by frost; here on the mountain prospects for orchards to net $100 to $200 per acre. No profit in grain and stock farming, but land and climate adapted to fruit; peaches come into bearing in three years; apples in 6 to 7 years. Cow peas are raised in orchards.
Lincoln, Ark. L. A. CORLENTZ.

But small acreage of winter wheat sown; looking reasonably well considering the conditions of planting; full acreage of oats and damaged by dry spell; probably one-half; corn a full acreage; rather late, but looking well; damaged slightly by late frost; cotton full crop and nearly planted; early planting cut down by late frost; will be re-planted. Gardens doing well (thanks to P. F methods). Plenty of garden truck to eat; early potatoes looking fine. Fruit conditions good for what is left; peaches a very light crop; apples probably one-half crop. Stock in good condition and high. C. W. HERSHEY.
Formosa, Ark.

The above postal secures a 50-cent prize.

Florida.

Winter sown rye has been harvested, but a poor crop; too much rain in March; oats sown in December and January about ready to harvest; about half a crop; canteloupes and melons doing well; Irish potato crop good and are going into market; also tomatoes; peach crop in many places a failure; too cold on the 18th of February; orange crop will be good in most places over the orange district; corn crop good and doing well. Health of the people good, and all are engaged at work. LEVI RISNIOER.
Box 77, Sorrento, Fla.

The Indian River pineapple section is a high, narrow strip of land 15 miles long. A few acres devoted to trucking beans, tomatoes and onions. Truck has all been shipped. We have commenced to ship the largest and finest crop of pines we have had for years. The country is prosperous to a high degree. Prices are fine and growers are jubilant over prospects for the season. We have no stock here; have not heard of any hog cholera in the county. R. L. GOODWIN.
Ft. Pierce, Fla.

Georgia.

Vetch, rye and alfalfa do well for pasturage. Sheep and goats do well here. Hog cholera caused much loss in November and December, but none now; poultry raising needs more extensive development. Winter sown grain injured by late freeze and continued cold; rye and oats looking fairly well; wheat poor; seeding of all crops very late; rains delayed preparation of land and cold kept the seed that was planted from doing much good; early planted cotton requires replanting; last season being almost a failure on account of dry weather, the late start towards planting this season has been discouraging; still crops do grow well here and farmers are looking and hoping for nice, continued warm weather, when the farms will "blossom as the rose."
Marietta, Ga. WM. LEA.

Spring crops in this section are extremely backward; frequent and excessive rains from the middle of December to 14th of April very seriously retarded the preparation of land, and but little plowing has been done, under very poor conditions. Fall sown oats were badly winter-killed and December sown wheat was severely injured and is not yet headed but is well tillered and with suitable season may yet make over half a crop, while earlier sowings are short of both straw and heads, and a great deal of it, except on very rich or highly manured land, is too low to be saved. But a small per cent. of the cotton crop is up; very little of the corn crop is large enough to be cultivated and the stand is not yet developed. Garden vegetables are late and are growing very slowly. Scarcely any clover or cultivated grasses grown here. Pea vines constitute the principal soiling and hay crop. The peach crop is quite short; apples are nearly a falure and the grape crop not yet developed. Owing to the rush of spring work the condition of work stock is rather bad, while that of cattle is some better, with a considerable increase in numbers in the last two years. The condition of hogs is good with a large increase in numbers since 1901. Poultry of all kinds is flourishing. Prospect for good crops has been gloomy all winter and spring to present time, and farmers had become quite blue with hard land and no rain from 14th of April to 14th of May, but gentle showers now falling.
G. W. O'KELLEY, SR.
Harmony Grove, Ga.

Kentucky.

Wheat prospect at this time not flattering; too wet for a healthy growth; all spring crops backward; at least two weeks behind, on account of cold and wet. We have mixed farming here; quite an apple section; had a fine bloom but the fruit is not setting well; seedling peaches promise plentiful crop; also blackberries and raspberries. Stock of all kinds bringing paying prices; hogs and horses in the lead; quite an interest in poultry. Should present prices continue a few years, the hustling farmer will certainly be able to square acounts and the good wife have her rocking chair in the kitchen.
Wolf Creek, Ky. H. C. BOONE.

Wheat has made a slight advancement and is turning yellow in many places; oats and rye are still in good condition; corn planting is progressing satisfactorily, but the early planted fields are not coming up well; in many places they will have to be re-planted. Tobacco plants are fairly plentiful but are growing very slowly and have been attacked by insects in some sections; Irish potatoes are about all planted and are beginning to come up; gardens are late and have been injured by the frost and cold weather. Peaches are practically a failure, but other fruits are in fair condition; strawberries were injured in some localities by frost; grass has grown slowly but is in good condition. Farm work is very backward, but progressing rapidly. Stock of all kinds is looking well; hogs are comparatively free from disease at present, and are very scarce. The poultry business seems to be satisfactory; no disease among the chickens. W. R. ENGLISH.
Rome, Ky.

Farmers are generally behind with their work. We had a very cold, wet spring until about April 20th; since then it has been very dry. Wheat is good so far; some rust; oats short and thin on the ground; gardens late, but look fine; meadows and pastures moderate; stock of all kinds high; hogs on the decline; no cholera. Poultry not extensively raised, although it pays well. Farmers, as a general rule, are looking and working for a prosperous season. SYLVESTER WATSON.
White Run, Ky.

Wheat is looking fine except on too wet ground; has been so wet some are very late seeding oats; some corn planted; early potatoes up; strawberries commenced ripening; light crop; will be some fruit. J. MERCER.
Eubanks, Ky.

Agricultural outlook quite encouraging; wheat and rye large acreage and conditions extra good; splendid catch of clover and grass; corn planting well advanced; cow peas will be sown extensively, both for hay and to "hog" down; peaches and apples plentiful; small crop of pears; plums and cherries scarce; strawberries a fair crop, and just now getting ripe; gooseberries a failure; gardens are fine; poultry healthy and in great abundance; stock wintered well; cattle a surplus; sheep scarce and prices advancing; good hogs scarce; shoats and pigs plentiful; no hog cholera. Farmers are contented and happy and for once we have not a croaker in all this region. THOS. F. JOHNSTON.
Sulphur Springs, Ky.

Fair soil, properly farmed; splendid fruit land, especially apples; apples, early sorts, good; Ben Davis nearly a failure; peaches a fair crop. An unprecedented rainfall. Farmers very far behind with their work; about one-half corn planted, with indications of drought now. Wheat, oats and clover look well; large acreage of wheat sown; more clover being sown through teaching of P. F. No hog cholera in neighborhood at present. Farmers very hopeful and optimistic. J. H. PIKE, SR.
Mooleyville, Ky.

Spring was wet and cold; farming much retarded; but few oats sown; wheat looks well in spite of the cold weather, though beginning to suffer for want of warm sun; grass is very short and can't possibly make a full crop; spring seeding of grass is fair, though suffering for want of warm sun and showers; corn planting will be late; tobacco plants planted and a fair prospect for a good crop to be set; fruit greatly damaged by February freeze; peaches, pears, plums and cherries almost a failure.
Saloma, Ky. R. P. RIVERS.

Louisiana.

Rice almost the only crop. Winter extremely wet; season late; plowing and seeding being pushed rapidly; acreage about same as last year; well put in, and a fine rain last week; prospects fine. Irrigating pumps and canals will begin work in a few days. Stock in good condition; hogs scarce; pork high; no cholera; poultry scarce and eggs high. Figs the only fruit; no pears. Oil wells being put down. CHAS S. ANDERSON.
Jennings, La.

Farmers in this country are badly behind with work; they have had more to contend with this year than ever before, although we are still cheerful. The prospects bid fair for a good crop this year. We had too much rain at first, then overflow, then windy and dry with frost enough to kill cotton on the 1st of May, though now warm and spring-like, with plenty of rain; the greatest difficulty will be cottonseed to plant, as the frost killed the first planting. Some will plant more corn and cow peas; some are going to raise more cattle and some more hogs and hominy. JAMES H. PACE.
Floyd, La.

Maryland.

Weather very fine for spring work; farmers busy planting corn; some not finished plowing yet; ground getting very hard to get in order; wheat looking well in some parts; some water-killed; oats very poor crop here; quite a large acreage of tomatoes. A good lot of tree fruit grown in this section, such as peaches, pears and plums; not much small fruit; not many vegetables grown for market in this section. Farmers are mostly all land renters here, but seem to be well contented. Sheep and hogs the money stock. Very little hay grown. Labor very scarce.
Prices, Md. JOSEPH B. TAYLOR.

Wheat is looking fine and the grass crop much better than last year. Farmers are about done planting corn; a great many potatoes are raised in this section and the usual amount have been planted. Just now a good rain would be beneficial to all growing crops. Fruit trees of all kinds were never more full of blossoms, and there is a prospect of a fair amount of fruit, especially apples and cherries. Stock of all kinds healthy; no hog cholera. Not much poultry raised here except chickens. I believe our farmers generally are hoping and working for a prosperous year. E. J. READ.
Carrollton, Md.

Much of the wheat looks fine, better than last year, but some is rusty and short; oats slow to start, and unless rain comes soon, oats and hay will be a very short crop. A very little crimson clover sown, which looks splendid; coming out in head; barley looks fine; rye is in head and looks well. Some corn planted; others have to plow yet; ground getting dry and hard. Fruit hurt by late frosts, but apples, cherries and some pears are all right; small fruits suffered most; strawberries are blooming late; no peaches or plums. Poultry healthy and thriving; a good business in this section. Horses mostly well and fat; cattle look fine, and since in grass produce plenty of milk. Farmers are hopeful. MRS. A. ENGLAR.
New Windsor, Md.

Corn, wheat and strawberries are the staple products. This is a great strawberry section; tomatoes are being grown in abundance for factories; strawberry crop a little short, due to late frost. Farm help scarce. Farmers substituting machinery for hired labor. Everything on a boom generally. Farmers behind with their work, due to wet weather and late spring. JOHN F. JONES.
Truitts, Md.

Winter wheat and rye is looking fine; only need rain to make a large crop; oats, barley and spring rye are looking well for the time they have been sown; potatoes up and growing nicely for as dry as it is at present. Most all the farmers through planting corn. The prospect for apples is better than it has been for two years at this time of season. peaches are scarcely grown in this section, as they do not do very much. Farmers are getting more thoroughbred cattle and hogs every year and as fast as they can afford to do so, and there is scarcely any sickness among cattle, and hog cholera there has been none for 15 years. Farmers are paying more attention to the poultry, as some make more money with poultry than half their crops. All the farmers are looking forward and working to make this the most prosperous year they have ever had, as everything is high. D. N. SWEENY.
Freeland, Md.

Wheat looks fine; weather at present dry; corn about planted; hay will be scarce. Labor scarce; no negroes except in towns. No hog cholera. Great apple and peach orchards over county, but farmers' orchards mostly neglected. Stock of good and bad quality, mostly bad. Farmers in hope of a prosperous year before them. Corn, wheat and timothy main crops. Horses, cattle, hogs and sheep and some Angoras raised. Chickens on every farm. J. A. FUNKHOUSER.
Millstone, Md.

Mississippi

Have had plenty of rain; just right for cotton and corn; good stand of cotton. Work progressing nicely. Mules and horses at high prices. The fruit crop was greatly damaged by the frost and in good shape and fine prospects for crops this year. C. G. SMITH.
R 4, Corinth, Miss.

The crop conditions in this section are somewhat discouraging at present. We had very wet up to April 1, badly damaging winter oats, which will be a short crop; since April 1 we have had hardly any rain. Cotton is about all planted, but very scattering in coming up, and unless it soon rains the stand will be very uneven; corn is not all planted yet, the ground plowed the last two weeks being too cloddy to plant, and corn, what is planted is up and looks fine, some being 16 inches high; alfalfa doing finely; first crop ready to cut; Irish potatoes and all garden truck somewhat backward and suffering for rain; strawberries are ripe and yield well; other berries promise a good yield; apples, pears and plums will be about an average, but peaches will be short, some trees not having any; pastures getting short and suffering for rain, except Bermuda. Cattle doing fine under the conditions; horses stood up well under the sudden heavy spring work; the weather being cool was a big help; if we can have a good rain soon and favorable weather, we are in hopes of a big crop. Poultry raising is a good success here; young pigs doing fine and high in price; not enough being raised. E. S. BEACHY.
Gibson, Miss.

Our thirsty crops have received a good draught of water to every farmer's delight, the first in eight weeks. Winter oats crop seriously damaged; some good stands of corn, but not much cotton yet. Truck damaged considerably; cool nights, hot days, no rain, very detrimental. Live stock generally in good condition. Fruit shortened by cold snaps in April; strawberries plentiful; fine prospects for blackberries. Poultry commanding highest figures for years. Sweet potatoes ready to set out. Farmers busy and very hopeful now. No hog cholera here.
Brandon, Miss. L. AGNES T. REHSR.

North Carolina.

The finest March weather on record. Agricultural operations in advance of the average. Owing to rains and cold snaps in April we have fallen back to the average. Rye extra good; wheat and oats damaged by cold, but not badly; gardens fine. Plenty of fruit in sight. Poultry extra early, but April killed many chicks. Not a stock raising section, but destined to become so. No cholera; no potato bugs. Cotton chopping begun. Corn worked out. Crops look well. All cheerful. Just had a fine rain. W. T. CUTCHIN.
Norwood, N. C.

The farmers have the blues; wheat crop will be a failure; oats medium; rye fairly good; corn and cotton coming up badly. Cool and dry here; worms killing corn; gardens medium; potatoes same; clover and grass good. Poultry and other fowls doing well; live stock, horses and mules in fair condition. Feed scarce; cattle scarce and high; sheep scarce; hogs in demand. Farmers generally finished planting; crops not ready to work. Fruit crop short.
Dallas, N. C. E. S. COSTNER.

Wheat prospects not good; oats bid fair to make full average crop. Too much rain for meadows; not so good as usual; cotton about all planted; no stands as yet; first planted had to be planted over; too cool for germination, consequently many seeds have rotted; too dry for later planted in this section. Not much corn planted in this section. May and June are the months we usually plant this crop; Irish potatoes are fine; some sweet potatoes being set out; peanuts and cane being planted, with other forage crops. Acreage in cotton will not be greater than last year. Gardens promising; strawberries average crop; peaches about two-thirds of a crop; apples half crop; plums full crop; cherries nearly a failure. Poultry doing well; plenty of friers for home consumption. Stock in fine condition, especially horses and mules; cattle on pastures in good condition. Farmers in good heart. Labor about as last year, none to spare.
Poplar Hill, N. C. T. J. WATKINS.

February and March were unusually warm, with much rain and cloudy weather. This prevented the necessary preparation for crops, and spring appeared one month early; April, and so far in May, has been unusually dry and cool, with frost several times, doing considerable damage to fruit and trucking. Pastures are slow coming in; planting was delayed and done under unfavorable conditions. Germination is slow and feeble, and if it don't rain soon cotton that is not up will be the poorest stand in years. Wheat has been greatly damaged by fly and rust. The following per cent. is the condition compared with an average: Wheat, 50; oats, 66; trucking, 66; apples, 83; peaches, 20; bee industry, 80. The acreage of cotton and corn has been decreased one-tenth and more stock is being kept, and there is no hog cholera. At no time in a dozen years have the farmers been financially in better condition than now.
Duncan, N. C. C. C. GETTYS.

The above postal secures the $2.50 prize.

Wheat, oats and rye will not make over half crop. Much damaged from wet weather and fly; cotton and corn nearly planted; some worked the first time; no increase in acreage. Clover is fine. All crops need rain at present. Apples, cherries and peaches injured by late frost; will be half a crop; full crop of Irish and sweet potatoes expected. Berry crop full. Stock looks fine. Farmers are raising more cattle and hogs. All stock brings good prices. Poultry has done well and brings fancy prices. Gardens look fine but need rain. We expect a fine grape crop. Farmers in blues but working heroically. Expect a good cotton, corn and potato crop.
Bellwood, N. C. A. G. HIGGINS.

The above postal secures a $1 prize.

Winter wheat looks badly on account of so much rain and cold. The crop will be short. Winter oats very thin, probably half a crop. Clover looks fairly well; spring sown oats will be short because of late seeding and the cold; clover has come up very well. The general outlook of this section from an agricultural standpoint is gloomy. Corn is not planted yet; wheat has the rust; oats will be short, and the prospect for the tobacco crop is by no means promising. There will be no fruit, except in a very few places; peaches, apples, cherries and pears all killed by cold; strawberries bid fair to do well; blackberries, we think, will come in right. Poultry industry is gaining prominence in this section. REV. T. H. STIMPSON.
Donnaha, N. C.

Wheat is injured by the continual rains and will fall short. Farm work much behind; not through planting corn and cotton; tobacco ground is being prepared. Fruit is nearly all killed. Hogs scarce and high; cows plentiful and not in much demand. Poultry high. LONA L. KIMREY.
Oakdale, N. C.

Weather cool and dry; wheat in all stages of growth from branch to boot; all have the rust; fall oats look well; spring oats not doing well; too much rain in March and April for small grain. Farmers badly behind with their spring work. Ten-cent cotton has caused an increased area to be planted, with heavier bills to be paid next fall.
Lockville, N. C. L. E. COLE.

Winter long and rainy, though not severe. Early spring unusually wet, retarding farm work. All small grain is looking well; apples and peaches in full bloom were caught by a freeze of 30 degrees on April 24th; weather was dry; they are probably not hurt. The usual acreage of corn, cabbage and potatoes being planted. No hog cholera in this section. Chickens and eggs cheap; hay scarce; horses few for sale and high. C. E. DAMERON.
Naples, N. C.

The spring opened 10 days early; continued wet weather retarded farm work and planting has been delayed one month. The crops at present are not satisfactory. We are working away as usual, not expecting, however, a full crop. Comparing with former years at same date the outlook would be about as follows: Corn, 50; cotton, 50; wheat, 40; gardening, 50; apples, 10; peaches, 0; pears, 2 per cent.; berry crop good; winter and spring oats good. We raise but little stock. What we have is in fair condition. Poultry not up to average.
Gambles Store, N. C. C. M. HUNT.

The above postal secures a $1 prize.

Wheat not half a crop; fly and cold weather and too much rain; oats very small prospect; not good clover, and grass is not good; corn not coming up well, too cold and dry; been dry from May 1st to 13th; no rain yet. Gardening and trucking not growing much, and potatoes small. Hogs and pigs scarce and high; no cholera; poultry doing well; milch cows and beef cattle scarce. Tobacco plants not doing well; too dry; this being our money crop prospects not so good now, but there can be a great change, the crop not being set yet; we had a good crop last year and are making preparation for a large crop this year. People seem to be in good spirits. Apples and peaches poor and cherries and plums very scarce; grapes and strawberries and blackberries a good crop. People are preparing to plant tomatoes this year to can, to help out the money crop, tobacco.
WM. N. PEGRAM.
R 3, Kernersville, N. C.

South Carolina.

In South Carolina a good full crop has not been made in four years; unfavorable weather probably the reason. The winter sown crops of this year are very poor, except in the most fertile land. The outlook for summer crops is splendid. The prospects for a splendid fruit crop are good, especially for peaches, which is the principal shipping fruit grown here. The stock raising industry is quite limited here, only a few being engaged but those engaged in that industry report it as being profitable. The raising of hogs for market is a growing business, and is quite profitable. A few are preparing to go into it on a large scale. The feeling of the farmers is generally good. ROBERT M. HITT.
Montmorenci, S. C.

This is a fine farming country; principal crops are corn, cotton, peas, potatoes, wheat and oats. On account of wet weather the crops are two weeks late, except wheat and oats, which have a fine straw, but has been struck with rust and the outlook for wheat and oats is pretty sorry; corn and cotton are not to a good stand yet; but if the season is favorable I see no reason why we should not make a good crop. There is more ready cash among the farmers this spring than common. The condition of the fruit crop is very promising. There were some cases of hog cholera in the winter, but have not heard of any lately. There is a demand for milch cows. A. W. NEVES.
Chicks Springs, S. C.

Tennessee.

Spring cold, wet and backward and farmers behind with work; wheat damaged some by fly. Harvest will be at least three weeks late. Winter and spring oats bid fair for a good crop; corn backward and being injured by cut worms; more fields of fine clover in this part of the country than for several years; not many cow peas being sown this spring; Irish potatoes looking fine. Late frosts killed most of the peaches; prospects for apples good; strawberries scarce, but outlook good for an abundance of blackberries. Feed very scarce. Cattle in poor condition. Few hogs left in the country, owing to the scarcity of corn. Farmers generally cheerful and hopeful. S. H. TAYLOR.
Maxwell, Tenn.

Farmers devote considerable attention to truck farming to supply Mt. Pleasant phosphate field. Unusually cold and rainy spring retarded planting; corn mostly planted; some sweet potatoes out; Irish potatoes out late but growing thriftily; winter rye, oats and wheat good; fair yield expected; few peaches on account of late frost; apples, from present indications, will make a full crop; strawberries being marketed; probably largest yield ever known here, though injured some by frost. No hog cholera for a year. E. W. FARNUM.
Crestview, Tenn.

The winter sown crops look well and prospects are for a big crop of both wheat and oats; a good acreage sown. Good farming weather the last three weeks and most of the corn planted. Peaches and plums killed by late frosts; other fruit expected to make a good crop. Poultry and all kinds of stock in demand at good prices. No hog cholera nor diseases among other kinds of stock. The farmers are working with the expectation of a good season both for crops and stock.
Dawn, Tenn. E. C. LYON.

Fruit has been injured some this season by frost. Farm work was greatly delayed on account of excessive rain. Most of corn

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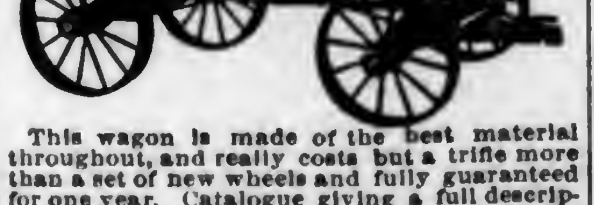

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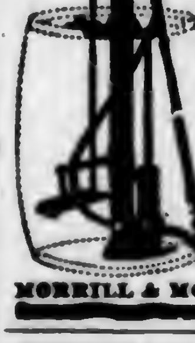

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planted, but not doing well yet on account of dry and cloddy condition of soil now. Wheat and winter oats outlook only about half a crop; good clover and grass from fall seeding; hay will be light. Mixed farming, dairying, trucking, fruit and poultry in this section. Horses and mules very high. Cholera has not been here for several years. Farmers here seem to be working and hoping for a prosperous season. A. R. Caton.
R 5, Cleveland, Tenn.

Cold, dry spring. Wheat one-half crop; oats late: Main crops are wheat, corn and cotton. Planting about done. Cotton and corn coming up. Cow peas extensively grown, both for hay and seed. Have fruit growers association and are growing small fruits and vegetables for market; strawberries fine and paying well; been shipping for two weeks. We are taking more interest in good farming.
Atwood, Tenn. C. W. Brooks.

Wheat looks well. Fruit about all killed. Farmers behind with their farm work. Country hilly. G. C. Lay.
Jasper, Tenn.

The warm, wet winter and spring has made farmers behind; but little corn planted; wheat and oats are poor, caused by rain and fly. The grass promised good till the present dry spell of two weeks. No spring seeding done here; seed in September; good prospects for apples; no peaches and hail ruined strawberries. All stock wintered well; many cattle are reared and sold as grazers; but few hogs raised and no cholera for ten years.
McMinnville, Tenn. J. S. Hamilton.

Wheat and winter oats look well; average for this time of year; spring oats late on account of wet spring, but a large crop has been sown. The corn crop is nearly all planted, but is coming up slowly, on account of cool weather, which made gardens also late. Some tobacco has been set out. We have a small crop of peaches and cherries. Average crop of apples; pastures in fair condition; clover beginning to bloom. Nearly all stock looks well; hogs and poultry scarce, the result of short corn crop the last two years, but no disease among them at present.
Oakplain, Tenn. J. R. Paschall.

While everything began to get green as early as common, the season has been the most backward for plant growth for many years. From one to three frosts every week since March; the last two May 4th and 5th, consequently the fruit crop will be short. Up until the last of March we had the best prospects for wheat and winter oats for many years, but within a week a blight had struck them and they have been at a standstill almost ever since; wheat is beginning to head very low, except on extra good land, and the prospects are not half as good as a while back; a good acreage sown; not much corn up, owing to a wet, cold spring, and very few done plowing or planting, so the corn crop is very late; lots of corn planted in rough land and many pieces of land can't be turned till we have rain. Hogs scarce, but no cholera; mules and horses scarce.
Cowan, Tenn. C. S. Looney.

Texas.

Winter mild and very wet. More small grain planted than ever before; wheat will make 10 to 20 bu. per acre; oats (graze) took rust, no good (not grazed), very good 20 to 80 bushels; rye, from Northern seed, a failure; from home grown seed good; fall sown alfalfa, Japan clover, burr clover, sand vetch, fescue grass, etc., made fine growth; cabbage, turnips, carrots, onions, lettuce, rape, radishes, mustard, asparagus, English peas, etc., good; Irish potatoes poor; some corn planted in February; the bulk planted in March; land too wet; most cotton planted in April reduced acreage; sorghum, for hay, sown in abundance; milo maize, Kaffir corn, etc. Farmers diversifying as never before. Melons, canteloupes, onions, tomatoes, cucumbers, etc., planted largely. Irrigation coming into favor. No rain in April; nice rains during first half of May; nights too cool. Cotton injured; also melons and tender vegetation; corn yellow and backward. Some oats in head, being cut for hay. Worms and caterpillars in multitudes. Some corn plowed twice; cotton being plowed first time; a little chopped; worms spoiling stand. Fruit prospects generally good. Stock fattening rapidly. Weeds abundant in pastures. Plenty of stock water. Grass started. Cow peas being planted in corn; no frost since Feb. 7.
Seguin, Tex. Richard Govett.

Oats the only winter crop sown; looking fair, as plenty of rain fell in winter and spring and no cold weather. Corn growing finely; splendid prospects for good crop; cotton late in planting, on account of much rain; cut worms very bad on it here, will necessitate re-planting. All truck gardens looking well, although cut worms are worse than ever before, causing poor stands, especially of tomatoes. Fair prospects for fruit crop, although below average in quality. Many young orchards set out last fall and winter are making splendid growth where properly cultivated. Stock has wintered well and is now in good condition. No apparent demand for cattle and prices very low; hogs came through winter in good shape and many young pigs are doing well. A great deal of poultry being raised and 100 per cent. hatches common. Farmers are in good spirits on account of fine season, and prospects for a good crop year and are working hard.
Oakley, Tex. Walpole Nockolds.

Crops are generally very late on account of so much cold, wet weather; corn looking well; early planted cotton killed by frost on May 1st, causing considerable replanting; oats are very late, being sown in the mud; result, a poor stand and looking bad. No wheat sown in this section. Irish potatoes late, but looking well. Peaches a total failure, being killed in the bud; but few apples and pears grown here, which will produce an average crop; berries bid fair for a good crop. Cattle came through the winter in hard shape but are looking well now; no demand except for fat cattle. Horses looking only moderate, owing to scarcity of feed with most farmers; mules in demand at a fair price; hogs scarce and very high. Farmers are stocking up with good stock. Poultry doing well and higher than for years. Farmers are working hard and are hopeful of a good crop this year, as we have had two short crops in succession. We have had splendid farming weather since April 1st, but has been very cold for this climate. Several frosts in April. A. Brick.
Tira, Tex.

This is a farming country; principal crops are corn, oats, wheat and cotton. Wheat and oats look bad; corn a very bad stand; not much cotton planted yet. Farmers behind with their work, on account of so much rain from October last until April 1st. Had frost first of May. Present outlook very discouraging. Nice rain recently. Health good; no chills in this county. T. R. Duncan.
Brandon, Tex.

The condition of crops is three to four weeks late, owing to heavy rains in early spring, and cool weather up to date. Corn all planted and from one to two feet high; poor stand in some places; cotton not all planted yet, and backward that which is up; Irish potatoes, early planted, partly dug and a poor crop; later planted, much better. Cattle and horses in good condition. Hog raising on the increase, and no disease among them; poultry raising flourishing and good demand for them. Peaches and plums all dropping off trees, caused by cool nights. Farmers are in a hopeful state after two years crop failure. William Brown.
Brenham, Tex.

Virginia.

Winter was very mild. Our coldest was 6 degrees above zero. There was an unusual amount of rain, which continued till last part of April, which kept the ground too wet to plow. All winter sown crops are looking well. Very little spring sowing done. Wheat is heading, while many farmers have not commenced planting corn. Late plowed clay land very lumpy and weather now too dry to prepare a good seed bed. Some will not plant till it rains. Very few potatoes planted, but the early planted are looking fine, with plenty of bugs; gardens late and backward. Unusual prospect for apples of all kinds. Unsheltered stock and sheep wintered poorly. Spring too wet and cold for early hatched chickens. No cholera among hogs or chickens. Albert Murphy.
Gordonsville, Va.

Spring seemed to be coming on early, but severe frost the first part of April killed nearly all fruit except late apples and small fruits. Surplus of rain all fall and winter and until three weeks ago; almost impossible to plow now. Corn about half planted and ground too hard to plow to get in good condition; wheat looks well except where drowned out during rains. Horses high. Know of no hog cholera now; some last year. Prices good and farming seems to be looking up. Violets raised for Northern florists in great profusion. J. M. Stone.
Louisa, Va.

Accomac is a sweet potato county. They are putting out a large crop this year. The round potato has been damaged by cold rains; but in well drained land is looking well. This is not a grain country, though there is much corn and some wheat and oats grown. But few peaches; other fruit trees full. Some are growing tomatoes for the factories. Year by year more attention is given to scarlet clover and cow peas. This is not a stock country, but the standard bred horse has "the right of way." The farmer has had two good years. Much of this success is attributed to the Farmers' Exchange. The outlook is hopeful. J. H. Hartman.
Temperanceville, Va.

Rockbridge has had the wettest winter and spring in the history of the county. Warm, wet March and cool, wet April. Farming greatly delayed. Much planting to do. Corn, which was planted early, coming slowly. Cool and dry now. Wheat promises an immense crop. Meadows and pastures good; large area planted to oats and corn. General outlook encouraging. Feed and grain scarce and high. Good horses and cattle bringing fair prices. Last summer very dry; all crops a partial failure. Fruit mainly killed by heavy frosts early in May. Hogs scarce and high. No hog cholera. E. W. Helper.
Goshen, Va.

Winter short and mild. Not enough snow to cover the ground more than once all winter, then it lasted only several hours. March was warm, with only one light frost; April wet and cool; May is fine. Strawberries are ripe now. Early potatoes nearly ready to bloom. The main crops raised here are wheat, oats, corn, Irish potatoes, sweet potatoes, cow peas and peanuts. A good many peanuts are raised. Fruit of all kinds is doing well here; a good many peach orchards planted.
Denleigh, Va. Mrs. S. P. Yoder.

We have had a very wet winter and spring, so that farmers are very much behind with their work. Wheat is beginning to head and looks only fairly well; clover, both red and crimson, has grown nicely; fruit promises only a partial crop; not more than half. More apples than anything else. Eggs are hatching rather poor, so that spring chicks are not as plentiful as usual. No hog cholera and not many hogs. Farmers are not raising much stock nor anything else but tobacco, and are discouraged over the low prices of that; tobacco planting will commence whenever it rains. Corn is about all planted. Tender vegetables are late; hardy ones are early. John N. Ragsdale.
R 1, Danville, Va.

Weather cool; excessive rainfall. Wheat the best for ten years; rye good; grass fair; oats crop sown and coming up; corn about all planted; some corn coming up. Farmers have sown more wheat, rye, oats and grass than for years. Produce brings good prices. Farmers prosperous.
Effna, Va. F. A. Crabtree.

West Virginia.

We have a good cash market the year around for all products of the farm. Wheat came through the winter in fine condition. An immense acreage of corn, oats and potatoes has been put out in good condition. Fruit, with the exception of winter apples, mostly all killed by late freeze. Stock came through the winter in good shape and quality counts for much more than formerly. Poultry is receiving more attention than in the past. Alfalfa is being tried in this section. The Grange, which has been dormant for years, is taking on new life. Hog cholera is unknown here. Our farmers are prosperous and have faith in the future.
Barrackville, W. Va. L. W. Clelland.

Spring has been very wet and cold, and farmers are very much behind with their work, but still seem hopeful. Much plowing yet to be done. A large acreage of oats has been sown. Fruit has been greatly damaged by cold, and will probably only average one-quarter crop. A good prospect for berries and other small fruits. The people here are becoming much interested in poultry ands small fruits, and the outlook seems brighter than for some time. Lizzie J. Ward.
Chestnut, W. Va.

Wheat condition, 80 per cent.; oats, 90; more sown than usual; little rye sown, 90 per cent.; corn planting nearly done; slightly increased acreage. Fruit prospects: Apples, 7 per cent.; pears 0; plums, 4; cherries, 5; peaches, 0; currants, 0; strawberries, 25; too early to estimate grapes. Stock in fair condition; meadows and pasture short; need rain. No hog cholera; some paralysis in brood sows. More interest taken in improved chickens, especially Barred Rocks; some interest in turkey raising; few ducks and geese; few guineas. Farmers generally hopeful and hustling; a few "waybacks" plodding along as usual. Frederick Spiker.
Ten Mile, W. Va.

Wheat, rye and other minor winter sown grains promising; normal yield indicated; meadows and pastures short; spring oats, corn, potatoes, clover and gardens short, owing to unfavorable weather conditions for germination; however, are of excellent color; plums, cherries and pears practically a failure; apples half a crop; berries plentiful. Stock generally in excellent and thriving condition; no hog cholera; little poultry raised and that poorly cared for, hence of little importance. Spring cold and unfavorable, and vegetation generally short for time of year. Droughty condition prevailing at this writing. A. G. Fansler.
Hendricks, W. Va.

The above postal secures a 50-cent prize.

Corn, oats and wheat the principal crops; cattle, hogs and gardening all run to some extent; sheep are neglected, although country is suitable. Winter was mild and wheat generally good; oats got in rather late; probably slightly increased acreage of corn and oats this year. A late freeze set the meadows back, which had an early start. Corn being put in. Good times expected to continue. Little hiring is done, as loose labor is scarce. No hog cholera at present. Owing to mild weather and plenty of feed all stock wintered well. Been two splendid weeks for farm work. Thos. H. Strain.
Wellsburg, W. Va.

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WESTERN.

Oklahoma.

This is one of the best counties of the Territory. Wheat and oats outlook the best in years; wheat promises 20 to 40 bu. per acre; oats 50 to 100; alfalfa looking fine. Apples, peaches, plums and all small fruits looking better than I have seen them in five years. All stock doing fine, as the pastures are in prime condition. Gardens are looking well. Very early potatoes somewhat frosted. Early planted corn being worked. Cotton planting is being pushed with the land in prime condition. A great deal of new sod land being broken and planted to Kaffir and milo maize. Peanuts a success here; potatoes, Irish and sweet, make good yields.
Elk City, Okla. J. H. Hagea.

The above postal secures a $1 prize.

Young orchards have made good growth and are just beginning to bear. Freeze on April 20th damaged fruit and early gardens some, and nipped corn and potatoes to ground. They are coming again and a good stand. Wheat and oats are in fine condition; cotton and broom corn being planted and sweet potatoes being set on the ridges; alfalfa about ready for the first cutting; an increased acreage of cow peas will be planted. Stock—mostly of inferior grades—came through winter in good shape. Farmers all working for better breeds. No hog cholera nor stock diseases of any kind at present. Farmers in good spirits. R. D. McKinzie.
Bloomfield, Okla.

Crops all in but not growing fast, on account of cold, wet spring; corn very small and late; oats small; wheat all the way from 6 inches to 2½ feet high, some pieces being plowed up and put in corn. Excellent prospect for fruit of all kinds. Potatoes look well. Great country for strawberries. Pastures good; lots of stock raised and sold; lots of poultry raised and sold, which brings good prices. Farmers in good spirits.
Uncas, Okla. Mrs. Marilla Reynolds.

Crops are looking fine at present. Wheat good, corn set back by frost May 1st and 2nd, but coming out nicely; potatoes fine; oats poor; grass excellent; stock in good condition. We are all in good spirits and very hopeful of our new homes. Rowan Boone.
Ft. Cobb, Okla.

Prospects for crops are very good so far. Wheat beginning to head; it is estimated that Oklahoma will make 40,000,000 bushels of wheat; oats and corn looking well; peaches bid fair to make an extra good crop. Stock is all looking well since the grass has come; have fine grass. All farmers have lots of chickens and they do real well here. Farmers are all very hopeful of good crops. Have had plenty of rain; the spring has been rather late, though have had some early vegetables to eat. Some cotton planted. Health very good. This is a good farming country; well watered. Annie Boydstun.
Cowden, Okla.

Indian Territory.

Weather has been of such a character as to preclude early spring work, and oats and corn planting has been late for this latitude. We have had an excess of rain. However, everything looks bright for the farmer. Talk about garden spots! This is the country for the farmer. Hired labor is hard to secure, and an influx of good farm hands would be a blessing to us. Kansas City prices for all kinds of produce prevail here.
Gwendale, I. T. J. E. Wolfe, Sr.

Farming in this locality is one month late, owing to excessive rains in February and March, and April being very dry. All tender garden stuff, including cotton, killed by frost April 3rd; corn and potatoes damaged, too; cotton re-planting going on at present; wheat and oats in fine condition, especially winter oats; pastures fine. Everything indicates a bountiful harvest. Plenty of rain since May 8th. Cattle went into pasture in a very poor condition but are fattening fast. Fruits of all kinds doing well, especially berries and peaches. No sickness among hogs; some blackleg among young cattle. Maude Cline.
Ardmore, Ind. Ter.

Montana.

Winter very mild; few weeks sleighing in the winter; principal rains in spring and fall. Apples, cherries, plums, strawberries and bush fruits grow abundantly, as do most vegetables, grains and grasses. Late trees just beginning to bloom. Good prospects for crops and prices. O. H. Barnhill.
Kalispell, Mont.

Colorado.

Only irrigation farming successful. Heavy snows in the mountains the past winter insured an abundance of water, and as a consequence farmers look forward to an unprecedented year of prosperity. Fall wheat is looking fine, and first cutting of alfalfa will be in progress by June 1st. Quite a large acreage being seeded to spring wheat, oats, barley and potatoes, all of which are pretty much laid by. Fruit growers report fine prospect for everything along this line. No hog cholera in this section. Good market and high prices. Everything sold by weight except eggs. O. L. Smallwood.
Hermosa, Col.

Wyoming.

The past winter being remarkably severe, caused considerable loss to cattle owners, but much greater to sheep men, the losses in some flocks amounting to 25 per cent. of the herd. Range-wintered stock very thin, but will soon be gaining rapidly on new grass. The few alfalfa-wintered cattle in good condition and were turned on range in April. Pork is scarce and very high. There was an unusual demand for hay at a fair price all winter. March sown oats are the finest ever known at this season; young alfalfa is starting nicely in oats; old alfalfa came through the winter in good condition. Speltz just coming up. Early garden stuff mostly up; potato planting just beginning. Only fruit in this section a few wild plums and berries along the small streams. Poultry and eggs scarce and very high. Irrigation in full sway. The heavy snow fall on the mountains indicates plenty of water. Sheep shearing is in full blast. Wool selling well. Prospects in general are for a prosperous season, with a demand for experienced farm hands.
Careyhurst, Wyo. W. B. Divine.

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PACIFIC COAST.

California.

One of the heaviest apple and berry producing counties in the State; all kinds of fruits do well and a heavy crop is on the trees and vines, but apricots, and they will make about half a crop. Hay and grain promise a good crop all over the State; some is heading out; the crops of potatoes, corn, melons and all kinds of vegetables are very promising. The farmers and business men all feel jubilant and look for a very prosperous year, with good prices and plenty money moving. J. W. Toof.
Valencia, Cal.

Soil very black, and 25 feet deep. Water absolutely soft. Plenty of fish in river and deer in the foothills two miles away. These large ranches are being cut up in small holdings or to suit purchasers, usually in 10 or 20-acre tracts; Eastern people mostly buying these and setting to all the kinds of fruit raised in California, including oranges, olives, and figs. No irrigation practiced except for midsummer garden stuff. Very hard winter; thermometer down to 20 degrees above zero; not much damage. Things look generally well. Rainy season Oct. 15th to June 1st. Main crops are fruit, barley, wheat and corn.
Chico, Cal. J. S. Harman.

Have had a good winter season, with 16 to 18 inches rain—a larger amount than for several years. It has done much to replenish the underground supply for irrigating, which had been largely drawn upon during the recent dry years. Principal crops in this section are oranges, lemons, grapes, apricots and winter vegetables, all of which bring living prices and often more. Farmers busy making barley hay, the chief horse feed; the crop is heavy; apricots are rather light, owing to rain at blooming time; peaches a fair crop; orange trees just through blooming. Los Angeles and surrounding towns are all growing quite rapidly; many Eastern people continually coming to make homes. The past year was a prosperous one and everything points to a continuance. E. H. Ashley.
Orange, Cal.

Climate temperate; wet winters and dry summers. Average rainfall 33 inches; rainfall of last winter 33¾ inches. Chief crops are wheat, hops, barley, oats, prunes, apples and peaches. Early grain poor on account of early cold and no rain; late grain needs rain badly; hops look well; prunes and peaches all killed by early frost; early apples all killed but there will be a fair crop of late ones; alfalfa crop very light, but second crop looks better, but needs rain.
Potter Valley, Cal. J. B. Goodrich.

Oregon.

Climate good, with no blizzards or crop failures. We have had a very backward fall; not much fall sowing done, on account of much rain and hard freezing, but coming out splendidly as warmer weather approaches. We have had fairly good weather for spring sowing, but very cool; kept grain back from germinating as early as general; the spring seeding is coming to a close; grass was almost frost-killed last winter; pastures came on late. Stock that has had but little stored feed is in poor condition; pastures coming on nicely now. Agricultural prospects are very hopeful. G. G. Rempel.
Perrydale, Ore.

Mining, farming, horse and cattle raising are the industries. The horse and cattle feed on the range in summer and the horses usually feed on the range the greater part of winter, but last winter being a long, snowy one, the people were obliged to feed all the horses they could find; a small per cent. died. Alfalfa hay and rye are the principal products of the soil; all kinds of fruit and vegetables are raised. Irrigation is practiced where possible and practicable. Two and three crops of alfalfa are cut each summer.
Rye Valley, Ore. G. H. Rollins.

The prospects for a crop are good; spring oats and vetches that were planted in January and February looked, at one time, injured, but now are ahead of the later planted; fall planted vetch and oats are ahead of the winter sown; fall wheat is looking fine, though there was not a large amount planted; the red clover crop is being harvested by a few farmers by turning their milch cows on to increase the flow of milk. The fruit crop looks as if it will be an unusual crop if no harm overtakes it; cattle and hogs good; no disease prevailing at present. The farmers seem buoyant for the future and present prospects. The dairy interest here is gaining, though it is only a year old.
Stone, Ore. J. L. Mumpower.

Times are good; laboring hands somewhat scarce; oats and grain sowing finished; garden making well under way; grain looks good; hops doing nicely and trained once; prunes are very full. The light frost of April 10th and 11th did but slight damage to hops, and but little to fruit blossoms. Winter has been a trifle hard on goats and sheep, but picking up fast on the good pasture. Sheep shearing begun. Good growing weather. Farmers generally are feeling good over the bright outlook, and conditions are fair for all crops, with best prospects for a prosperous year. John G. Rempel.
Dallas, Ore.

This part of Oregon is more prosperous than for several years. Spring is late, but farmers hopeful. Grain looks well. Apples and pears in full bloom. Peaches injured by frost; small fruit promises well. Stock on range in fine condition. Much interest taken in poultry. Lumber industry shows much life. New mills being located rapidly. Mines have yielded well during the past season. All kinds of property changing hands and new enterprises are being pushed, among which are great irrigating ditches, which will greatly aid the farming section.
Woodville, Ore. Mrs. H. Minthorn.

We had a very pleasant winter, also good spring. Winter wheat looks well, being from 8 to 15 inches high; red clover from 8 to 12 inches. It looks now as though we will have good crops of all kinds, fruit included. Land varies in quality as well as price. Farmers doing well and mostly contented. Large acreage of potatoes being planted.
New Era, Ore. G. H. Brown.

The above postal secures a 50-cent prize.

Washington.

The spring is about ten days later than the average, but has been an ideal spring for farming. The ground was in better shape for seeding than for a number of years. Seeding about done; early sown grain is up and growing fine, and late sown is coming up nicely. Indications seem most favorable for a large crop of oats, which is the principal grain and money crop grown; meadows look fine and grass is growing in fine shape; pastures, where not overstocked, also look well; early potatoes are up 2 to 3 inches high, also early peas and garden truck are growing finely. The prospects are most favorable for a bountiful fruit crop; apples, pears, cherries, etc., are well loaded with blossoms and present a fine sight and with favorable weather will produce gratifying results; strawberries and all small fruits are in full bloom and the prospects are most flattering for big yields; the one great trouble is there is not as much small fruit raised on the farms as there should be. The dairy business is increasing wonderfully, as this is an ideal dairy country; summers cool and winters mild. Most of the farmers who own farms seem to be prospering, as there is a good market for nearly everything raised. Potatoes are an exception at present. Taking everything into consideration, the outlook is most encouraging at present. John Randall.
Maryville, Wash.

This section is in a flourishing condition. Early peaches and apricots were somewhat injured by frost, but apples, pears, prunes, grapes and all kinds of berries bid fair to be a good crop. Alfalfa is one of the main crops, and is now about 18 inches high; the first cutting will begin in June. Hay is a scarce article. Some land changing hands at good prices. People generally, as soon as they solve the irrigation problem, prefer this country to eastern sections where the rainfall is depended upon. Good horses bring good prices. Large herds of range cattle are fed in the valley every winter and bring good prices in the Sound markets. Not a great deal of attention paid to thoroughbred poultry as yet. Mrs. M. Marsan.
Sunnyside, Wash.

Canada.

Mixed farming principally followed. Fall wheat came through winter well, but dry weather and frosty nights in April gave it quite a setback; much of it is being cultivated up and the land sown to spring grain. It will average about two-thirds of a full crop; spring seeding was rather late. The fine weather of March tempted many to sow, the ground working up finely, but a fall of snow and heavy rains in the fore part of April caused the land that was worked to run together and bake, and nearly all had to be sown again in the latter part of April. There is very little growth owing to continued dry weather and cold nights; clover and grass, on stiff clay soil, are making very little progress. Farmers are prosperous and maintain a hopeful spirit, as shown by the large number of improvements that are being made. There is no hog cholera in this section at present. A. J. Taylor.
Glencoe, Ont.

Fall wheat the only fall grain raised; equal to last year, which was 30 bu. per acre; red clover promises an enormous crop; alfalfa is yet in its infancy. All spring grain backward, on account of excessive cold and moisture of April. The fruit trees show great bloom, better than last season. My crimson clover in orchard is just flowering. Large acreage of mangels planted this year. Commenced planting corn for ensilage; two-thirds of the farmers have silos. Dairying and pork raising most profitable features in this section; no hog cholera in the county. The care of and profits from poultry increase yearly. Owing to the plentifulness of fodder and prospect of good prices, live stock never wintered better; flocks of sheep small; cattle now on pasture. D. James.
Langstaff, Ont.

Spring opened early. Freshets did much damage. Weather cold; vegetation not well advanced; trees leaving out; farmers planting and seeding now. General outlook prosperous for dairying, for which this is one of the best sections in the Maritime Provinces. Many hogs raised; no hog cholera. Many fine horses raised. Large quantities of strawberries grown and shipped to Boston, Montreal and other places during July; the plants wintered well. Some fine apples raised; prospects for fruit this year are good. A good section for sheep; much pure bred poultry kept. J. H. King.
Smiths Creek, N. B., Can.

March was the warmest month for years; April and first of May cold, with frost at night. Seeding done in March, April and May; corn planting has commenced. We need rain at present; the stand of spring grain fairly good; very little wheat sown last fall, on account of too much rain; what was sown looks well; new seeding to grass good. Horses, cattle and hogs are high in price. Hired help is scarce. Prospects for fruit fairly good; strawberries in bloom; have lived here over 40 years and have never seen a case of hog cholera nor a pound of fertilizer sown. Farmers are in good health and spirits, hard working and industrious people.
Wilsoncroft, Ont. Emery Clemens.

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Come to Stay.—Rural free delivery has not only come to stay, but will stay to grow into wider use every year. Five years from now we will wonder how our rural population ever got along without it. For this reason those of our readers are wise who, when buying rural mail boxes, buy a box that will last for years. One of the very best boxes made is the "Signal," manufactured by the Signal Mail Box Co., 357 Benton St., Joliet, Ill. They make an attractive "Free Box" proposition. Write them for particulars and be sure to mention the P. F.

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NITRATE OF SODA IN THE GARDEN.
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Published Weekly by The Farmer Co.
P. O. Box 1317
S. E. Corner Market and 18th Streets
Philadelphia, Pa.
Entered at the Philadelphia post office as second-class matter.
PROF. W. F. MASSEY, Editor.

Philadelphia, May 30, 1903

Our Crop Report.

This week we devote the first part of the paper to an exhaustive report of the crop conditions throughout the country, as reported by P. F. subscribers. These postal card reports will be found worthy of a careful study, as showing the present outlook on the farm. In the New England section the cards show that farmers are well up with their work, notwithstanding the cool weather of April. The Sumatra tobacco acreage in Connecticut will be increased. Spring seeding is well advanced. Fruit is promising. In the Eastern States of New York, Pennsylvania, New Jersey and Delaware winter wheat is promising, but hay may be a very short crop. In the cabbage section of New York the area planted in that vegetable will be much smaller than usual. Corn and potatoes planted in the southern section, but owing to the cold weather, part of the corn ground in the northern section is not yet plowed. Newly seeded clover in portions of Pennsylvania has been hurt by the April frosts. Fruit in all these States has been injured from the same cause, as well as by dry weather later on, this latter especially applying to small fruit. In the middle section, of Illinois, Indiana and Ohio, wheat has been damaged by unseasonable weather in April, and in some sections of Illinois by chinch bugs and rust, but on the whole, wheat is reported good. Grass generally fair. The oats prospects in Indiana and Illinois are rather poor. Corn planting is late in both of these States. Corn is planted in southern section, and being planted in the northern. Fruit prospects poor, the frosty weather of April being responsible therefore. Hog cholera is reported at one or two points in Illinois and Indiana, but the three States, as a whole, are free from that disease. Stock generally in good condition. In the Middle West—Iowa, Kansas, Michigan, Missouri, Minnesota, Nebraska and Wisconsin—in the winter wheat area, the crop is reported good except in some localities in Missouri, where it has been injured. The wheat outlook in Missouri is the least promising of any of the States named. Winter rye in Wisconsin is fine and the clover and hay prospects in same State also good. Alfalfa is reported very promising in Kansas and Nebraska. Corn planting is backward in all the great corn belt of this section and will depend altogether on future conditions. Hog cholera is reported in sections of Kansas. In the fruit belt of Michigan the outlook is fair, crop not generally hurt by the April frosts as in other sections. The condition of stock throughout the section is good. In the South, Alabama, Arkansas, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, Texas, Virginia and West Virgina, there is general complaint of backward conditions. In the cotton section the staple has only been planted in the most southerly part and not under good conditions. In the northern part planting is progressing. In the wheat section the outlook for that cereal is reported good, except in portions of North Carolina. Tobacco planting is waiting on showers. Corn is backward, and fruit almost throughout this great stretch of country, injured by freezing weather. Stock is in fair condition. In the western section, Oklahoma reports an excellent outlook for wheat, one correspondent estimating the crop of that Territory at 40,000,000 bushels. Cotton is being planted, and corn is up. Fruit good, and stock the same. Both in Oklahoma and Indian Territory farm operations are behind. On the Pacific Coast wheat is reported in excellent condition. The hop prospect is fair and fruit reported in good shape. Stock the same. The wheat crop of Canada is promising, according to the few reports received. Scattered reports from all the potato sections indicate that planting is late, and no estimate can be made of the acreage or condition. In fact, a large portion is not yet planted. The poultry business seems to be booming over the whole country. Every section reports an increasing interest in this department of the farm. Another noticeable feature is the very small amount of hog cholera reported. In only a few isolated localities do we hear of it. Taking the reports as a whole, the stock industry is in excellent shape. Another gratifying feature in these reports is the almost universal testimony that the farmers are feeling all right. When the contrary is mentioned, it is only spoken of as temporary. The most unfavorable feature of these reports is the weather conditions mentioned as prevailing almost universally east of the Rocky Mountains. The present drought is one of the most protracted and damaging in the history of the country, and if continued will undoubtedly accentuate the conditions reported from our subscribers. Local showers have mitigated the situation somewhat but nothing but a continued soaking rain over the section of country affected, will do good to the extent needed. The reports show how widespread this drought is, and how it is affecting all crops within the sphere of its influence.

————We are much obliged to our friends for the gratifying response they have made to our request for this crop information. At first we hoped to print every postal received, but in the last days of the week they came in with such a rush that we were compelled to prune and cut down and leave out, so that at the end about as many postals have been omitted as are printed. We have done our best in awarding the prizes, although we realize that many who do not receive them, are worthy of them. The prizes simply wouldn't go around.

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Kansas Reports.

The farmers of Kansas are fortunate in having a real Board of Agriculture and a Secretary who works untiringly in their interest. There are no reports that come to our table which are more welcome than the reports from Kansas, and the last one, on Railroads and Agriculture, is no exception. Mr. Secretary Coburn endeavors to show that there is, or should be, no antagonism between railroads and farmers, that their interests are mutual and their prosperity inseparable, though each has grievances. The prosperity of an interior agricultural State like Kansas is bound up with the prosperity of its railroads, and instead of antagonizing, each should help the other in every legitimate way. Railroads have made farming possible and profitable in Kansas and elsewhere, and the prosperity of the roads, on the other hand, is dependent on the prosperity of the farmer, so that wherever the roads put a burden on the farmer they are working injury to themselves. We once spoke to a railroad man in the East and suggested to him that in the transportation of early truck from the South the Southern railroads were injuring themselves by too high rate. "Why," said he, "if we lower the rates they will grow so much stuff that they will ruin themselves." We dropped the subject when we struck such narrow-mindedness and ignorance of the real interest of the railroad. The report at hand has an attractive series of articles bearing on the subject. One of these is by a railroad attorney, which presents the railroads' side of the question in a very ingenious manner, and with a great deal of reason. An article on the "Farmer and the Railroads," by the editor of Wallace's Farmer, is an able one. What he largely objects to is the "Pestilent interference of the railroads in the politics of the State." The farmers do not take as much interest as they should in the management of state affairs, and in the meantime the organized capital in the roads manages matters to suit itself, and too often to its own betterment rather than the good of the country. And this is true not only of Kansas but of the country at large. The report is filled with other interesting addresses, and winds up with a most exhaustive work on corn and sugar beets. It well sustains the reputation of the Kansas Board of Agriculture for valuable publications.

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A Neglected Legume.

The broad beans so much used in England have never become popular in this country. The reason, we think, is mainly because, being a bean, people imagine that they are tender, and therefore plant them after the land is warm in the spring and failure results, since these beans will not stand the heat. We have planted them in North Carolina in January and had them frozen when in bloom without injury. The Southern Stations would do well to experiment with these beans and ascertain their value as food for stock for which they are esteemed abroad. The Broad Windsor is a good table vegetable, and planted in the South in January, along with English peas, the green beans are ready to eat about the same time green, and are a very acceptable vegetable. Planted when the weather is warm, however, they will utterly fail to do anything in our sunny climate.

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The Mississippi River.

We who are out of reach of the great Father of Waters know only what we read of the great devastation that spring floods work in the rich farming regions bordering on the great stream, and at times we begin to wonder if human industry and engineering skill will ever avail to restrain the floods. There is a general impression that most of the work on the levees is being done by the United States Government. But the Engineering News tells us that this is not the case, for in 1902 the local levee boards placed on the embankments 6,227,000 cubic yards of earth and the United States Government only 713,000, or a little more than ten per cent. of the construction. The News says: "In the last report of the Mississippi River Commission will be found statements which lead one to wonder not that crevasses have occurred in the levees, but that the great volume of water passing down to the Gulf has been held so well within bounds." It is stated that the total contents of existing levees below Cairo were 167,238,000 cubic yards, and that the amount needed to complete them is 94,054,000 cubic yards. So that the completed work represents but sixty-four per cent. of a complete system. Certainly, if these statements are correct, it will be wise to expend all that is needed to complete the system, and thus save from overflow vast areas of the finest lands in the world. The levees have given way only at the weakest and unfinished parts, and it is too soon to call the work a failure. If the Government is to irrigate the arid lands of the West to give them away, it should certainly do all that is needed to protect from floods the lands that farmers have bought and paid for.

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The Cream of the Bulletins.

United States Department of Agriculture. Farmer's Bulletin No. 168. Pearl Millet. By Carleton R. Ball.

We hope that the great number of correspondents who have for months past been writing to the Editor of the P. F. about the wonderful pencillaria which a Western seed house has been offering, will write to the Secretary of Agriculture and get a copy of this bulletin. The effort to put out an old plant like the pearl millet at a great price, as a new thing and a great wonder is the cause of the preparation of this bulletin. Pearl millet was formerly classed by botanists as Pencillaria Spicata. But this name has long ago been dropped and the promoters of the recent scheme have simply picked up the obsolete name for their plant. Pearl millet is known botanically as Pennisetum Spicatum. It is one of the tallest of grasses, in strong soil reaching sometimes the height of 15 feet. It makes an immense quantity of green forage, ten tons of which are worth for feeding, about as much as one ton of well grown Indian corn. The bulletin gives the following list of names by which this plant has been known in this country: African cane, African millet, Bajree millet, Black millet, Brazilian millet, Bulrush millet, Cat-tail millet, East Indian millet, East Indian Pearl millet, Indian millet, Egyptian millet, Horse millet, Japan millet, Mand's Wonder, Mand's Wonder Forage Plant, Pearl millet, Pencillaria. Penicillaria and Pencillaria Zeaoides. A list of the German, Spanish, African and East Indian names is also given. The native country of this species is not known but the genus to which it belongs is widely distributed in tropical and sub-tropical regions. It is thought probable that its native home is Africa, where it has been cultivated for hundreds of years. It was probably introduced into the United States about the same time sorghum was introduced. About three years ago a few seed firms began to advertise a wonderful new forage plant, some under the name of pencillaria, others under the name of Mand's Wonder forage plant. Very exaggerated accounts were given of its productiveness and value. They claimed that the new plant was imported direct from South America, and no reference was made of its identity to the old pearl millet. The seed was sold at very high prices and the plant recommended for Northern and Southern localities, 80 to 100 tons of green forage being claimed as the usual average in five to eight cuttings a season. The next season a strongly worded description and recommendation of the plant appeared in a reputable American horticultural journal, and was copied abroad as far off as Australia. A German seedsman published an extravagant advertisement of it under the name of Perullaria. Then a German agriculturist published an able article and told the real facts about the plant. In this country a very small percentage of the seedsmen took any part in this boosting of an old plant under a new name. Several seedsmen state in their catalogues that pencillaria and Mand's Wonder are simply names coined for the old pearl or cat-tail millet. The United States Department of Agriculture during the past season, procured seed from the seedsmen under the various names and grew them in adjoining plats. The plants grown were identical. It is not denied that there are distinct varieties of the pearl millet in India and Africa, and that by careful selection it may be possible to produce a strain which will be hardier and earlier and better adapted to Northern conditions. It will readily be understood that a plant making such a great growth needs very rich soil, and makes a heavy draft on the fertility of the land. At the Georgia Station at three cuttings nearly ten tons of dry fodder were made per acre at a loss of nearly a ton of mineral matter from the soil. The bulletin gives the methods of planting and cultivation and the various uses of the crop as hay, soiling, ensilage, etc. In the opinion of the present writer it is very hard to cure it as hay and the hay is very poor stuff when made. For any purpose for which the pearl millet can be used Indian corn will be found a great deal better.

Our Business Corner

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HENRY HARRIS, Business Manager.
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Our Most Popular Offer.

It is still time to get bulbs and plants for late garden making; our offer of a dollar seed and plant due bill and the P. F. for one year for only $1.25 will help you. A dollar's worth of seeds or plants will cost only 25 cents.

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Massey's New Book, "Crop Growing and Crop Feeding."
Greiner's New Book, "The Garden Book."
Greiner's, "How to Make the Garden Pay."
Prof. Voorhee's, "The First Principles of Agriculture."
The P. F. Fountain Pen.
Warren's Book, "200 Eggs a Year per Hen; How to Get Them."
The Horse and Cattle Doctor Book.
A Year's Subscription to The Practical Farmer.
A Practical Farmer Guaranteed Knife.
A Year's Subscription to the Thrice-a-Week World or Hoard's Dairyman.
"Dairying for Profit, or the Poor Man's Cow."

These clubs of six is one of the most popular propositions we have ever made. It is absolutely no trouble to raise such a club at any post office where the P. F. goes. If YOU have not made up a club do so NOW. By the way, we can send you the P. F. fountain pen either with a fine, coarse or stub pen.

COMMERCIAL

Philadelphia, May 23, 1903.

WHEAT.—

No. 2, red	80	@	80½
No. 2, Penna. and Del.	81	@	81½

CORN.—

No. 2	50¼	@	50½
No. 2, on track	54		

OATS.—

No. 2, white clipped	41		
No. 2, white clip, no grade	39½	@	40

LIVE POULTRY.—

Receipts of fowls were light and the market was a shade firmer, with a good demand. Supplies of spring chickens were well cleaned up at former rates.

Fowls, hens, per lb.	14½	@	15
Roosters, per lb.	10		
Spring chickens—			
1½ to 2 lbs., per lb.	24	@	26
Smaller sizes, per lb.	15	@	22

DRESSED POULTRY.—

Fresh killed fowls, choice	14	@	14½
Fresh killed fowls, average	13	@	13½
Fresh killed broilers, nearby	35	@	40
Fresh killed broilers, West.	30	@	35
Frozen fowls, average	12½	@	13½
Frozen broilers, nearby	28	@	30
Frozen broilers, Western	19	@	21
Frozen roasters, choice	16	@	17
Frozen turkeys, young toms	18	@	19

BUTTER.—

Western creamery, extra	22½		
Western creamery, firsts	21½	@	22
Ladle packed	14	@	16
Prints, nearby, extra	23	@	24
Prints, nearby, firsts	22		
Prints, garlicy	19	@	20

EGGS.—

QUOTATIONS AT MARK.

Nearby fresh, ret'bl crates	15		
Western, choice, free cases	15½		
Southern do do	14	@	14½
So. Western do do	15		

Recrated, 1@2c. above wholesale prices.

CHEESE.—

N. Y., f. c. small—			
Old, fancy	14¾	@	15
Good to prime	14	@	14½
New, choice	12¼	@	12½
Fair to good	11½	@	12
State, part skims, prime	7	@	10

VEGETABLES.—

Asparagus, So., bunch	10	@	35
Beans, So., per ½-bbl. bas.	2.00	@	3.00
Beets, So., per 100 bun.	3.00	@	4.00
Cabbage, So., bbl. crate	1.00	@	1.25
Cucumbers, Fla., per crate	1.25	@	2.00
Cucumbers, per basket	1.50	@	2.50
Eggplants, Fla., box	2.50	@	3.50
Peas, So., per bu. bas.	1.25	@	1.50
Peas., So., ½-bbl. bas.	2.00	@	2.50
Squash, So., per 1-3-bbl. bas.	1.00	@	1.50
Tomatoes, Florida, crate	1.50	@	3.00

POTATOES.—

White, Pa., per bu.	68	@	72
do New York, per bu.	65	@	68
do Western, per bu.	55	@	65
do Southern, prime, bbl.	3.50	@	3.75
do do medium, per bbl.	2.75	@	3.00
Sweets, Jersey, per basket	45	@	50

BEANS AND PEAS.—

Marrows, H.P., 1902, bu.	2.60		
Pea beans, H. P., 1902	2.20		
Red kidney, 1902	2.90	@	3.00
Scotch peas, per bu.	1.70		
Green peas, per bu.	1.65		

COTTON.—

Cotton, per cwt.	11.85		

FEED.—

Bran, bulk, winter, per ton	18.50	@	19.00
Bran, sacked, spring	18.00	@	18.50

HAY AND STRAW.—

Timothy, No. Pa., choice, l'g.	20.50	@	21.00
do Western	20.00	@	20.50
Timothy, mixed Western	14.00	@	17.00
Straw, straight rye	15.50	@	17.50
Wheat	10.50	@	12.00
Oat	8.50	@	10.00

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle steady to a shade easier.

Extra steers	5¼	@	5½
Good steers	5	@	5¼
Medium steers	4¾	@	5
Common steers	4½	@	4¾

CALVES.—

Calves a shade lower.

Extra calves	7	@	7½
Fair to good	6	@	6½
Poor and common	4½	@	5½
Grassers	3	@	4

HOGS.—

Hogs lower.

Fat hogs, Pa., Del. & Md.	6½	@	8¼
Fat hogs, Western	8¾	@	9

SHEEP.—

Sheep and lambs lower.

Sheep, extra	5	@	5¼
Sheep, good	4½	@	4¾
Sheep, medium	4	@	4½
Sheep, common	2	@	3½
Lambs, spring	5	@	8½

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The New York Market Review.

The markets here have all turned higher and uncertain in the past few days, owing to the reports of the prolonged drought. There have been some phenomenal advances in prices. Cotton has broken all records, making ten cent cotton appear cheap in comparison. Spot cotton has sold above 12 cents a pound, and if conditions in the Southern markets and growing sections do not improve may go higher. Prices of cotton are not influenced entirely by crop conditions, but by the demand abroad for our cotton, and the fact that there is very little surplus on hand. Most of the nearby months are the highest. In New England the mill owners have tried to check the upward movement, but it has been impossible. Few of the mills are stocked far ahead, and some claim that it would be cheaper for them to close rather than manufacture goods with 12-cent cotton. However, that is a matter that cannot be easily answered. Print cloth and all cotton goods will likely go up with raw cotton, and the consumer will pay the difference.

Grains have not advanced so rapidly, but the continued dry weather is threatening the crop so that the market is very firm on future deliveries. Another week or fortnight of dry weather will send wheat and corn up five or ten cents a bushel. But the high prices as a result of crop destruction are not desired by anyone except possibly speculators. It would be better to have lower prices all around. Winter wheat is not in such a bad condition, but rye and spring corn have suffered a good deal. The frost in the Northwest, while other parts of the country were sweltering in heat caused farmers there to be apprehensive. Interior receipts of cash wheat are normal, and exports were good. Cash wheat is quieter than futures. Corn is moderately steady, with prices inclined upward on futures, owing to the delay in spring planting. Country offerings are good, and exporters are only moderate buyers. Oats are firmer in the West in sympathy with other grains, but cash sales on the seaboard were moderate. Dairy products are threatened with an uncertain future as much as anything. The continued dry weather has injured grass and kept farmers from putting their cows on grass. This late dry feeding has injured the quality of the milk, and has also increased its cost. Should the pastures be permanently injured at this season of the year there would be no supply of June butter which packers depend upon to fill their warehouses. There has so far no butter gone into the freezers, while usually at this time thousands of pounds have been purchased and packed away. This will create a sharper demand for grass butter when it does come in. Dry-fed butter will hardly do at this time of the year for the freezers. At the present moment receipts are increasing, but the consumptive demand is sufficient to absorb all. Indications are that Western June made butter will have to be shipped here to supply the deficiency, for in many Western dairy districts the drought is not at all bad. Cheese has come forward more freely the past week, but exporters have taken hold of it so freely that there has been no surplus. Very little grass cheese has arrived, and this is selling at a premium. Prices for best new cheese have advanced to 12 and 12¼c. per pound. Of the 28,000 packages received almost 15,000 were taken by exporters, mostly of large size colored cheese. Hay increased in supply last week, but the drought has stopped the receipts and there is no longer any surplus, while $1.10 is offered for prime hay. There has been increased activity in dried beans, and out of town buyers have advanced prices a few cents on a bushel for all standard varieties. Some marrows are taken for export at $2.70 and $2.75 per bushel. Trading has been rather moderate for live poultry, but nearby fancy fresh killed broilers are in good demand, and also tame squabs. Fresh killed turkeys are firm and in pretty fair demand. Most frozen poultry is held steady, but the demand is not unusual. Eggs have weakened and most of the receipts are poor in quality. Really fancy fresh eggs command a premium, but they are rather difficult to find. Nearly all fresh vegetables are firm and advancing. Onions are active and in good demand, asparagus firm and moving freely. Cucumbers are firm, and also lettuce and new potatoes. Prices for all these will advance if the dry weather continues, but on the other hand most receipts show poor quality, which works against their sale at any price. G. E. W.

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New York, May 23, 1903.

WHEAT.—

Wheat futures close strong and buoyant after being dull most of the day. Stocks of wheat in Minneapolis showed a decrease of 550,000 bushels for three days. Cables were somewhat better and foreign demand and sales were large; these, with too warm weather and danger of injury by fly, had much to do with the advance. Bradstreet's weekly figures were favorable.

No. 2, red	82½	@	83½
No. 1, Northern Duluth	88	@	89¼

CORN.—

Corn futures were slow and dull, but exceptionally strong; the Western markets advanced somewhat and that resulted in prices going up here; the visible supply showed a heavy decrease according to Bradstreet's figures. The weather was regarded as too warm in the West.

No. 2	55		
No. 2, white, f. o. b.	55½		
No. 2, yellow, f. o. b	55½		

OATS.—

Oat futures were firm, but very slow; the dry weather resulted in a nominal advance.

No. 2, white	41		
No. 2, mixed	38		
No. 3, white	38¾		

HAY AND STRAW.—

Timothy, large bales, cwt.	1.05	@	1.10
No. 1	95	@	1.00
Straw, long rye	65	@	80
Straw, oat	45	@	50

BUTTER.—

Creamery, extra, per lb.	22		
Creamery, firsts	21	@	21½
State dairy, fresh, tubs—			
Fancy, per lb.	21		
Firsts, per lb.	19	@	20
Ordinary, per lb.	17	@	18
West. Imitation Creamery—			
Finest, per lb.	19		
Good to prime	17	@	18
Western Factory—			
Finest	15½		
Good to prime	14½	@	15
Packing stock, solid packed	13	@	15
Rolls, fresh, com. to prime	13	@	15

NEW CHEESE.—

State, f. c., small choice	12¼		
Fair to prime	10	@	11¾
Large colored, choice	11¾		
Large white, choice	11¾		
State, light skims—			
Choice	9		
Part skims, prime	6½	@	7
Full skims	2		

OLD CHEESE.—

State, f. c.—			
Fall made, colored	13	@	15
State, f. c., large—			
Fall made, white	13	@	14¾

EGGS.—

QUOTATIONS AT MARK.

State, Pa., and nearby—			
Fancy selected white	18½	@	19
Fresh gathered, firsts	17	@	17½
Western—			
Storage packed, firsts	17		
Fresh gathered, firsts	16¾	@	17
Kentucky, seconds	15	@	15½
Tennessee and other Southern—			
Seconds	14½		

LIVE POULTRY.—

Spring chickens, nearby, lb.	25		
Southern, per lb.	20		
Fowls, selected, heavy, lb.	14		
Roosters, per lb.	9		
Turkeys, per lb.	10	@	11
Geese, average, per pair	90	@	1.25
Live pigeons, young, pair	35		
Live pigeons, old, pair	25		

DRESSED POULTRY.—

FRESH KILLED ICED.

Turkeys—			
Young hens & toms	15		
Fair to good	13	@	14
Old	14	@	15
Broilers—			
Phila., 3 to 4 lbs. pair, lb.	35	@	40
State & Penna., 3 to 4 lbs. to pair, per lb.	25	@	30
Balt., d. p., 2 lbs. per pair	40	@	60
Fowls, West., scald., sm., fcy	13½		
Dry picked, small, fancy	13½		
Heavy	13		
Southern & So. Western, d.p.	13	@	13½
Scalded	12½	@	13
Spring ducks—			
Long Island, per lb.	20		
Eastern, per lb.	20	@	21
Jersey, Pa. & Va., per lb.	19		
Squabs—			
Prime, large, white, doz.	2.75		
Mixed, per doz.	2.25		
Dark, per doz.	1.50		

FROZEN.

Turkeys—			
Young hens & toms, No. 1	19		
Roasting chickens, large and soft meated	16	@	17
Average No. 1	15		
Broilers, d. p., No. 1	19	@	21
Broilers, scalded, No. 1	16	@	18
Fowls, No. 1	13½		
Capons, choice, heavy	18	@	20
Medium size	16	@	17
Ducks, No. 1	16	@	18
Geese, No. 1	11	@	12

APPLES.—

No. Spy, bbl.	3.00	@	3.25
Russet, per bbl.	2.50	@	3.00
Ben Davis, per bbl.	2.50	@	3.00
Baldwin, per bbl.	2.50	@	3.00
Greenings, per bbl.	3.00	@	3.50

GREEN FRUITS.—

Grape fruit, Cal., box	2.50	@	4.00
Oranges, Cal., blood, box	2.00	@	2.25
Oranges, Cal., blood, ½ box	1.35	@	1.50
Oranges, Cal., navels, box	1.75	@	3.00
Pineapples, Fla., 24s-36s	3.00	@	3.25
Strawberries, N. C., qt.	5	@	15
Strawberries, Del. & Md.	5	@	12
Strawberries, East. Shore	5	@	11
Muskmelons, Fla., crate	2.25	@	2.50
Watermelons, Fla., each	30	@	1.00
Peaches, Fla., carrier	4.00	@	5.00

VEGETABLES.—

Asparagus—			
Colossal, per doz.	3.50	@	5.00
Extra, prime, per doz.	2.50	@	3.00
Prime, per doz.	1.50	@	2.50
Cull, per doz.	75	@	1.25
Beets, Southern, per 100	2.00	@	3.00
Cabbage—			
Charleston, new, bbl. crate	75	@	1.25
N. C. bbl. crate	75	@	1.25
Norfolk, bbl. crate	85	@	1.25
Cauliflower, Nor., bas.	1.50	@	1.75
Cucumbers, Fla., crate or bas	1.50	@	2.75
Char. or Sav., crt. or bas.	2.00	@	3.25
Eggplants, crate	1.00	@	3.00
Kale, bbl.	40	@	75
Lettuce, nearby, per bbl.	1.50	@	2.25
Parsnips, bbl.	75	@	1.00
Peas, So., 1-3-bbl. basket	50	@	2.25
Peppers, green, Fla., crate	1.50	@	2.00
Radishes, per 100	50	@	1.00
Rhubarb, per 100 bunches	1.00	@	2.00
Spinach, per bbl.	1.50	@	2.00
Turnips, white, 100 bun.	1.00	@	2.50
Tomatoes, Fla., fancy, car.	1.00	@	2.50
Onions—			
Hard stock, yellow, bbl.	3.00	@	4.00
Red, bbl.	2.50	@	3.25
Average, red, bbl.	2.00	@	3.00
Yellow, bbl.	2.00	@	3.00
New Orleans, bag	1.62	@	1.75

POTATOES.—

Fla., Rose, new, prime, bbl.	4.00	@	4.50
Chilis, prime, per bbl.	3.75	@	4.25
Chilis, sec., bbl.	2.50	@	3.25
So., culls, per bbl.	1.50	@	2.00
Charleston, Rose, prime, bbl.	3.75	@	4.25
Chilis, new, prime, bbl.	3.25	@	4.00
Savannah, Rose, prime, bbl.	3.75	@	4.50
Chilis, prime, per bbl.	3.50	@	4.25
Chilis, seconds, per bbl.	2.50	@	3.00
Old domestic—			
In bulk, per 180 lbs.	2.12	@	2.37
Per 168-lb. sacks	2.00	@	2.20
Sweets—			
Jersey, basket	75	@	1.25

◆

WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.

XX and above	30@31
X	27@28
Medium	29@30
Quarter blood	28@29
Common	25@27

UNWASHED (light and bright.)

Fine	19@22
Medium	21@22
Quarter blood	21@22
Coarse	19@20

UNWASHED (dark colored.)

Fine	16@17
Fine medium	17@19
Medium and quarter	18@20
Coarse	17@18

COMBING AND DELAINE FLEECES.

Washed fine Delaine	31@33
Washed medium	30@31
Washed low	28@29
Washed coarse	27@28
Unwashed medium	22@23
Unwashed quarter blood	22@23
Braid	20@22

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

The Five Acre Lot.

MRS. M. H. BURRIS.

"Well, 'Liz'beth, what do yer 'low ter do?" asked Uncle John.

"That's what I've been asking myself all morning," I replied, as I busied myself with the Saturday baking. "But the more I think the darker things look. If we had a place, the boys and I would try farming."

"Yes, ye've allus declared there was money in the ground, but so fur I haint had no more'n my shar' of luck gittin' it out; but bein' as yer head's sot thet way, I'll give ye a showin'. Thars thet five acre patch by the crik thet I'll give ye a year's lease on, though it's mighty resky taking the children on thet place ter make a livin', fer hit haint never done no good, an' Abe Sykes 'lowed a feller couldn't raise an umbrel on thet peaky land. But if ye want ter risk hit, I'll mek out the paper."

This afforded me the first ray of hope I had known since the recent death of my husband, which had left myself and four children almost penniless. I lost no time, therefore, in accepting this generous offer and thanking him with all my heart. As he rose to go he remarked, "I see ye hevn't sold thet spring wagon. Well, I've got an extra critter thet I took on rent an' I'll let ye hev him, an' ye can pay out'n yer crop."

The following week we were installed in our new home, which was a most ramshackle place, but I soon saw its possibilities. The shiftlessness of my predecessor was to our advantage, as we found accumulations of old refuse and piles of fertilizer, the value of which, even with my limited experience, I at once appreciated. I had always had an inclination for rural life and had been a constant reader of farm papers, which now I depended upon for information, but I failed to find the practical advice for routine work that I so much needed.

I was sitting looking over papers and catalogues, undecided just how to begin, when I was interrupted by a neighbor's child who came over to return some borrowed coffee. The coffee chanced to be wrapped in a page of the Garden Special number of the P. F. It at once attracted my attention and I said, "Lizzie, have you more of these papers?"

"Yes'm, we have a box full."

"Ask your mother if she will lend me some of them to read."

Shortly she returned with an armful. I had heard of the P. F., but heretofore had never read it, and as I now eagerly glanced over the papers what I found was a revelation. An old Garden Special told me what to plant and how to plant, and I saw that I could now make available the scattered knowledge on gardening I possessed. Those old back numbers now became my text book and served me well. Ralph, aged fifteen, was handy with tools and from refuse lumber we had soon made a hotbed and cold frames. We took window sash from an old outhouse, covered them with bran sacks, made mats of the same material, stuffed with hay for cold nights. Our daily work now became raking leaf mold from the old rubbish heaps and antiquated wood pile, with which we filled the frames. In the hotbed we planted tomatoes, cauliflower, eggplants, peppers, lettuce, etc. Early cabbage was raised in window boxes. Where before had been uncertainty we now had our work planned for the season. I hired a neighbor to break up the land, the boys following with the cultivator and all vegetables that would stand a low temperature were planted when the ground was prepared. The two younger boys and myself took charge of the plants and frames and every available box was utilized. The plants required a great deal of attention, but the boys solved the water problem by hauling it from the creek with their little wagon and an old milk can. In working in the neglected garden, I was delighted to find some asparagus and rhubarb leaves coming through the ground. These received immediate attention and we were repaid the latter part of March and first of April. In every available spot we planted radishes. My neighbor said: "You folks must be powerful fond of radishes," and when Mr. Taylor saw my half acre of bunch beans he laughed satirically, remarking, "La, we quit planting these beans three years ago. Pole beans will do but these won't bring you fifteen cents a bushel. He was much surprised when we couldn't supply the demand at $2 per bushel.

As I kept the cold frames filled with lettuce, transplanted from the hotbed, by April 1st we began selling these at 75 cents a dozen. The last of April we began sale of radishes. Being but three miles from market, the boys went daily and peddled from house to house, finding, early in the season, there was not much gain in wholesale prices. There was no denying the fact we were kept very busy, but the returns from our garden were so gratifying we did not stop to think of the work. Early peas brought us $4 per bushel, and as we had one-fourth acre we were able to pay for our horse. From our acre of beans, now coming on, we purchased a fine Jersey cow. Onions, lettuce and radishes were made a steady crop through the season. The half acre of Jersey Wakefield cabbage brought over $100, and early corn sold readily at 25 cents per dozen.

I have so far not mentioned fertilizer, but with our limited resources every device was resorted to. As far as possible it was applied in liquid form. To this I attributed our great success, together with the fact that everything salable was marketed. Early in the season I had impressed upon the boys that the success of our business depended upon using every by-product of the farm to the best advantage. From our first sales we had subscribed for the P. F., and it was my constant guide. As the summer began, so it continued, plenty of work, but satisfactory results. In the fall I was able to hire a man to assist in gathering in the crops, equip the boys for school and arrange to buy the five acres on easy terms.

Uncle John drawled as he was leaving one day: "'Liz'beth, ther haint a man in Lawson county has made more money from less of a start then ye hev. I'm mighty proud of ye, how'd ye ever make out ter do hit?"

"Why, Uncle John, it is all due to that 'no account paper' you wouldn't waste your time over."

"Well, hit beats all what ye've done on this five-acre patch, an' if the paper tells ye how ter do hit and when ter do everything, I 'low I'll let ye send my name on to them fellows just ter see how hits done."

Knoxville, Tenn.

* * *

In the Kitchen.

Mae P. Dumas, Millsap, Texas, writes: I want to tell of my way of making bread—good bread— fit for any king to eat, and so easy and simple any child can make it. When you milk at night, take one teacup of fresh milk and set on the stove to boil. Put enough corn meal in a bowl to make a batter the consistency of egg bread when you have poured over it your boiling milk. Now set in a warm place, and if in the morning it has not risen and cracked open, put it in a vessel of warm water until it does. Then take about three pints of warm water, add this risen yeast and enough flour to make a nice, smooth batter, a little stiffer than for pancakes. Place your bucket of yeast now in a vessel on back of the stove, and fill with warm water to keep the yeast warm, and in two hours it will be as light as foam. Then add a little salt and sugar—say two teaspoonfuls of each—and a little pinch of lard or butter. Have your flour sifted and make your dough just stiff enough to knead well. Make into loaves and after greasing each loaf well put them at once into well greased pans and put in a warm place to rise. When your pans are two-thirds full put in the oven to bake, not having it too hot, until it gets nicely done. My bread is never any trouble and always is ready to bake when I put up a fire for the noonday meal. If you have no bread box, take a lard can, or coffee can, and I guarantee your bread will keep sweet and fresh for five or six days. I am a farmer's wife. We have seven in family and I have to study all the near cuts and economical ways. This is the farmers' busiest time. We have one hired hand at present. I will tell the H. C. sisters how I manage my work and find time to earn some money to help meet the many little calls and needs in a large family. I always have breakfast ready by good daylight. When it is over I go to milk my cows, five in number, and have my two little girls wash and dry the dishes for me before they go to their hoeing (they have to assist with the farm work, too). After the milk is put away the milk vessels are washed and set out for the day's sunning and airing. I churn, then tidy up the house and hasten to the garden, where I can gather almost everything in the vegetable line, fresh and tender, with the dew still on them. I then prepare everything ready to cook and put in fresh water, and when time comes to light the fire it only takes me a few minutes to have everything cooking. I usually manage to have plenty of everything for supper, except to bake warm egg bread. Now I have two good hours every morning for other work. I have a washing machine and with my baby boy's help (age 8 years) I have, on wash days, the clothes out nice and clean by 10 o'clock. I used to iron everything, but I don't any more. Clothes wrung through a wringer and pinned on a line to dry have nearly all the wrinkles whipped out of them, so all my common hand towels, cup towels, milk cloths and such things I just fold nicely and put away. It lessens the ironing so much, and to me ironing is my most dreaded work. Now I will tell you how I earn my money. It is in sewing. I learned under my mother, when a little girl, to sew nicely, and I always liked it. I learned, when I grew up, to cut by measure and it is no trouble for me to fit anyone. My best customers live in a town 12 miles from me. They pay me cash for all I do, and never grumble at my prices. Last year I decided I would have to get a buggy, so I could carry my work whenever it suited my convenience (I had already paid for a good horse). So when I went to buy, I told the gentleman how I had to earn my money, as I had no income, and he told me, when I told him that I wanted a buggy on easy payments, that that was all right, and if I needed any more work than I could then get his wife would be glad to have me sew for her, as she could never get things made when she wanted them. So the result was I took a nice $80 buggy and have nearly paid it off and have done about $27 worth of work for his wife. I have $4.75 worth of work in the house now to deliver, that I did last week, with the exception of pressing it. Now, dear H. C. friends, don't think I never take time, or have a desire to read, for indeed it is my greatest pleasure, and I know how to appreciate it when I do find time. I certainly appreciate the editor's writings and efforts for our betterment. I shall try to show my sympathy for the poor shut-ins at once. The lady wishing running or climbing roses better try "Lady Bankshire." I have grown the yellow and the white; both are beautiful with their great clusters of blossoms and shining foliage. They are most hardy and profuse bloomers. If I am admitted to the H. C. I may come again with some of my good recipes.

* * *

Among The Flowers.

ROSIE L. M. TULL.

How many of the P. F. sisters, and brothers, too (for I have learned there are P. F. brother flower growers also), have been attracted by the beauty of some of the wild flowers of their locality? There are many wild flowers, growing unnoticed in their humble, secluded nooks, of waysides and fields, or, if seen, are given but little attention because they are simply wild flowers, occupying a lowly position in the world, just because they have not been presented to the people through the medium of some seed catalogue, but which are hardier and often prettier than many high priced plants of seedsmen. If they had a great long name and a space devoted to their praise in some reliable seedsman's catalogue, then could they claim as admirers many of the former indifferent persons who, heedless of the beauty, trod beneath their feet the dainty blossoms. Not that seedsmen do not have pretty flowers, for they do have the loveliest the world produces, but that many never look beyond a seed catalogue, or else look right over the near-by beauties while making up an order for flowers, and need to find them listed before they attract their attention. Buy just as many "store" flowers as you want or can afford, but keep some little nook reserved where you can plant some choice wild ones that you may chance to find during your walks and drives. Don't let it be all chance, either. Learn to look for them, and you will be surprised how many different kinds you will find. The spring is the best time to begin. Some day, when you have time, just take a basket, spade and a knife and sally forth in quest of some. All the family can assist. In this you will find the smaller children especially helpful. They will often bring in a new one for your approval, and if you decide it is worthy of a place how delighted they will be. Never forget to encourage the children's liking for flowers. Some day they will be older folks and will have need for all the lessons they can get from these heavenly messengers.

The little wild violets can be fitted into so many places with charming effect. I have a yellow rose bush with them interwoven among the canes at the bottom, also a chrysanthemum bed looks very pretty and attractive in spring with their violet-colored heads peeping above their green foliage around the border. A red flower resembling a cyclamen was found by the roadside in full bloom, and transplanted to a bed made sufficiently rich by a liberal amount of well rotted manure. It wilted some for a few days, after being transplanted, but did not drop its bloom. A white one of the same kind was found shortly thereafter and planted in the same bed, with good results.

The last, but not least, which I have space to mention, is one which I noticed while walking through the meadow one July evening, just before hay harvest. The plant grows about two feet tall, with small notched leaves resembling some kinds of oak leaves. The flowers are large, some almost as large as saucers, single ones, opening in the evening, closing late in the morning. Blossoms growing on short stems make them of no value as cut flowers, but are showy for the garden or lawn. The plant is quite hardy and needs no protection in this climate. The top dies down every autumn, but the root lives, and at the first approach of spring sends forth another new top. It remains in bloom for a long while, but does not produce many seeds, consequently does not spread very rapidly. The day after finding this flower, I returned to its neighborhood with a spade, but could not find it, as I had not marked its location and the flowers were closed. It was somewhat dwarfed by growing in the sod and the timothy heads were high above it, but it could not hide for long its snow-white blossoms, and soon it found itself located in a bed where a perennial phlox had died. Its new location was very rich, indeed, much better than the meadow. I gave the plant, when transplanting, plenty of water, and provided a shade for it during the day, for nearly two weeks, letting it receive full benefit from the dew. It wilted, of course, but continued to bloom for a while. The second summer it fully repaid for all trouble, in a fine display of blossoms. I do not know its name (wish I did); it is not a common flower in this locality, but there are no doubt plenty of them in some localities. These are only a beginning of the number of wild flowers each may find in their respective neighborhoods. I only give them as a suggestion that most wild flowers will grow and do exceedingly well, when properly transplanted, even though they are in full bloom. Do not wait until a seasonable time, unless you know the plant well by sight, to transplant, for the chances are that you will not get it. What a blessed thing it is that we cannot make a fence strong enough to hold all the flowering beauties within our gardens, for then the roadsides and fields would be deserts as far as flowers are concerned. Let us appreciate the pure, humble wild flowers where they are, but give them a little corner of our gardens for better study.

Walker, Mo.

[We appreciate the dahlia seed very much. How long before they will bloom?—ED.]

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TEA, very choice mixture, our brand, "CURIO CHOP," Formosa Oolong, English Breakfast, Japan, Young Hyson, Mixed and Ceylon..... Price per lb. 34 cts. Price per 5 lb. box $1.59
"RED STAR" LAUNDRY SOAP. 30 one lb. cakes, per box, $1.04, 60 one lb. cakes, per box, $2.94
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The Penn Chemical Works, Philadelphia.

* * *

How to Keep the Children on the Farm.

HATTIE PEACOCK.

First, don't allow them any pets, not even a kitten. Pets "are not necessary," you know. If someone gives one of the children a dog that can be trained, let them keep that; he can go after the cows and you can keep the boys at work a while longer. Every moment counts. People who believe that "all work and no play makes Jack a dull boy" never have a fat bank account.

Next, if you happen to have a pig that is likely to die, give it to one of the girls. She will probably raise it and you can sell it in the fall and keep the money yourself; children like to be encouraged.

Again, let the boys raise a yoke of steers; it gives them exercise and they enjoy breaking them. You can probably sell the steers for a good price, so you lose nothing. Don't let the children have a flower garden; lay all the ground you don't plant yourself to grass. Flowers are only another kind of weeds that cost money. It really is not necessary for girls and boys to waste time in reading, and papers and books are expensive.

Give each of the children a vegetable garden; you can, in that way, save the trouble of making one yourself. The children are yours until 21, therefore the vegetables will be yours also. Let them keep a few hens and a rooster; that will furnish your table with poultry and eggs. There's no need of buying meat when there's chickens about which one can appropriate. Its' all foolishness letting children have spending money; they'll only waste it. Don't have a hammock or lawn swing; it encourages the boys to be lazy. Don't let them have a horse to drive in leisure hours; no use to humor them. Expect them to know as much about things on the farm as you do, and if they don't do things right, "growl" at them; they will probably respect you more if you do, and it will make them wish devoutly that they were as "big as you are." If you have a disowned lamb give it to one of the little girls. She will care for it and you can sell the wool after it grows into a sheep, also the lambs, and if it is a good sheep, sell it to add to the bank account. Above and beyond all, don't ever give the boys credit for doing anything. Tell what "I've done" and what "I'm going to do," but your boys are not like So and So's; yours do nothing—"their mother spoils them." The above are a few of the ways the average farmer of my acquaintance employs, and they (the children) generally leave home at the earliest possible moment. Strange!

Gardiner, Me.

[Very?—ED.]

* * *

Correspondence.

Mrs. Barbara Myers, Bainbridge, Pa., writes: Dear H. C.: Here in old Lancaster Co. we have a late spring. I didn't have a seed in the garden till the third week in April, and to think that I cannot dig garden myself any more, but have to let husband do it for me! He is never in a hurry as long as the ground is cold and wet. For 30 years I made garden nearly every spring, but this last year I thought I was like the deacon's shay, going all to pieces all at once; but I did not, and hope to stay together awhile yet. But I am sure no one will blame me if I don't work so hard any more, for I am only five months this side of fifty years, and have raised eleven children that range in age from eight to thirty years. I have girls to help me now. I believe in teaching the children to work. My little girls, eight and eleven years old, can help me much at cooking. Last winter when I was sick they made soup and cooked eggs for me just as I would have it, and the youngest boy, thirteen years old (we have only three children at home), can do nearly all kinds of housework. Indeed, he does the churning nearly every week. We keep three cows and make butter. We have Jersey cows; they make such good butter. My husband, as well as my boys, can cook. If I happen to go off for a day I do not need to worry about getting something to eat for them; they can make a dinner if there is anything in the house to make it of. Yes, I have had a rocking chair in my kitchen ever since we had a house, and sometimes two, a big one for husband, when he comes in in the evening, or if he wants to rest a little after meals. I like a low one, and not so big, for myself, as I am only four feet eight inches tall and weigh but one hundred and three pounds. You will see that I do not need such a very big rocking chair. At this writing, the last week in April, it is cool, but it is so nice to be outside that we hurry with house cleaning that we may go out to work among the flowers, of which we have a great many kinds. My roses were frozen so much I had to prune them back, but now they shoot out finely. I guess they will bloom after all. And the fruit trees are blooming so freely—all kinds, cherries, peaches, pears, apples and crab apples. We expect plenty of fruit this year if no cold spell comes on yet. I will close by sending my best respects and wishing the P. F. success and inviting you all to a chicken and waffle dinner this week.

[So sorry we could not get there, sister. Next time let us know a month beforehand. Glad to hear from you and hope you will come often.—ED.]

Mrs. LeRoy Coleman, LeRoysville, Pa., writes: We have been asked by our editor to write of something that we have learned during the past few months. I can say that I have learned how to enjoy life. We are taking the P. F. We have been in the mercantile business for 30 years, and a year ago we bought a farm and we enjoy farm life so much that we regret that we did not become farmers 30 years ago. It is such a free, healthy, happy life. I believe in using the rocking chair in the kitchen; have a table by the chair that holds papers, books, fancy work and glasses, and even pare vegetables while sitting in the rocker. I go all about the farm and bring in something that will make cheer in the home. Last spring I began bringing in the moss and the last was the golden rod. Sisters, let us bring into our homes all the brightness possible; let us be grateful that God has placed us in nature's garden and given us so many beautiful things to enjoy.

[Here is a kindred spirit, one who enjoys "farming." Of course we do not take our farming in allopathic doses, but we enjoy it.—ED.]

Dollie Merrill, Iowa, writes: Well, I was just crazy for an incubator, but the "gude mon," said no, it was not good for my complexion to be getting up in the night to tend to it, so I, for years, thought of that incubator and the riches it would bring me, as another of my fallen "air castles." But after repeated failures with the sitting hens I finally concluded that I must have a hatching machine and brooder, else I should always have ceaseless longing for one. So after several lengthy arguments about them, which certainly were convincing, my husband said I might get one. Then I was glad, and tremblingly ventured to make a purchase, provided they would let me try one, which they did, and tonight my third hatch is coming out. My experience is that it can be made a success if you will make it a constant care. Never neglect it under any circumstances. My first hatch was one hundred and thirty-five healthy chicks; my second I did not do so well. I think there was too much moisture. There are a few duties to perform, but it does not take more than five minutes twice a day to perform them, and never neglect them if you would succeed. These duties are to fill the lamp once a day and snuff it; turn the eggs twice a day. This is all the care except to look at it five or six times a day to see that the temperature does not get too high, which the regulator will not always control when we do not understand exactly how to run one. I will say I like an incubator and I think anyone can run them with success, with proper care and watchfulness. But it is not all to be able to hatch chicks. The chick hatched with heat at 103 degrees must not be subjected to less than 90 degrees of heat, or they will be unhealthy. Then the feed for a week should be rather dry, cooked food. Corn bread, nice and light, is good feed for them, with fresh water. Then you must watch the little fellows so they do not crowd too much, thereby trampling the weaker ones down and killing them. They will need much care until they are six weeks old, when they are about able to take care of themselves.

E. D. James, Irwindale, Cal., writes: In a recent number of P. F. you ask for an article on market gardening. Here is what I did in one year on five acres, without a horse, except one to plow it at first. I hired it plowed 12 inches deep, and harrowed down level; cost for this was $8.75. I then made a hotbed 4x12 feet. Dug out the soil one foot deep and filled in with fresh manure, placed a 6-inch plank on the south side, 12 feet long, a 12-inch plank 12 feet long on the north side; closed up the ends filled in with soil 8 inches deep and here I raised my tomato, pepper and sweet potato plants. In January I sowed seed, $3; pink beans, one-quarter acre, seed, in drills, 16 inches apart, one-eighth acre onions; cost of seed, 75 cents; labor, $1. Also one-eighth acre table carrots; cost of seed, 25 cents, labor, $1; radishes, two rows 200 feet long, seed and labor, 80 cents; lettuce, 4 rows 200 feet long, seed and labor, 30 cents; turnips, 4 rows 200 feet long, seed and labor, 35 cents; red peppers, 2 rows 200 feet long, plants and labor 80 cents; sweet potatoes, one-quarter acre, plants and labor, $4.80; tomatoes, 2 rows 120 feet long, plants and labor, $2; Irish potatoes, one-half acre, seed, $3; pink goods, one-quarter acre, seed, 70 cents; lima beans, one-half acre, seed 75 cents, labor $4; black wax snap beans, one-quarter acre, seed and labor, $2.50. The rest of the land was planted to sweet corn. My market was a little town of 2,000 people three miles from the garden. Now for the profit. The cost of labor given here covers all cost of marketing; everything except irrigation; that cost $12. Sold produce from the garden as follows::

Carrots	$ 10.00
Bunch onions	9.50
Radishes	6.00
Lettuce	8.00
Peppers	5.75
Green lima beans	14.00
Black wax snap beans	12.80
Turnips	3.25
Dry lima beans	7.00
Dry pink beans	6.75
Dry wax beans	1.25
Green corn, in ear	5.75
Green corn fodder	42.00
Sweet potatoes	13.40
Irish potatoes	16.00
Dry onions	22.00
40 gallons sweet pickles	10.00
Green pickles	5.20
Total,	$198.60
Cost of raising	43.10
Profit	$155.50

This was all tended outside of working hours and entirely by myself, and I worked out by the day most of the time. This is no great thing, but shows what could be done on a larger scale if one were to put his whole time and attention to it. Hoping this will be of benefit to someone I send it in.

[We thank the brother very much for giving us all these little items, and put them in, hoping they may be of benefit to some beginner, or a source of encouragement to anyone feeling discouraged.—ED.]

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Topic No. 576, June 13.—*Where a Farm Can Only Afford to Have One Wagon Should it be a Low-Down One or Not?*

Topic No. 577, June 20. — *Have You Ever Grown Irish Potatoes Under Straw? If so Tell us How You Succeeded and How You Planted Them and When?*

Topic No. 578, June 27. — *Experience in Cheese Making on the Farm. How do You Make and Cure and Keep it, and What Kind of Rennet do You Use?*

Topic No. 579, July 4.—*On What Crop Does the Farmyard Manure Pay You Best, and How do You Manage it?*

Topic No. 580, July 11.—*If a Man Has a Farm paid for and Land is Cheap Around Him, Should he Buy More Land or Invest His Savings in the Further Improvement of What he Has?*

Topic No. 581, July 18.—*Is it Best in the Central West to let Clover run two Years or Only one? Will it Improve the Soil More in two Years Than in one?*

Topic No. 582, July 25.—*How do You Make Cider and Cider Vinegar, and How do You Keep Cider Sweet?*

Topic No. 583, Aug. 1.—*Can Farming be Successfully Done in the South Without the Use of Commercial Fertilizers?*

Topic No. 584, Aug. 8.—*How Have You Succeeded Best in Exterminating Prairie Dogs?*

Topic No. 574. How Did You Commence Farming? What Difficulties Did You Have? How Did You Overcome Them and What Success Have You Had in Improving Your Land and Yourself?

Orlando P. Cole, Nezperce, Idaho. — Nine years ago the principal part of the town we lived in was destroyed by fire, and we concluded to return to farming. Traded our property for a team, harness, wagon, plow, harrow and self-rake reaper, all second-hand and pretty well worn out, with the exception of the horses, which were 4-year-old colts. In the early spring of 1896, after the Nez Perce Indian Reservation was thrown open for settlement, myself and two of our boys started for the reservation and finally "squatted" upon an 80-acre tract of unsurveyed Government land, 30 acres tillable, balance pasture, and commenced the struggle for a home. We were without one cent of money, although we had about a month's provisions. We succeeded in breaking up 10 acres of sod, but there was seed to get, and our supplies to replenish. A town was started 10 miles distant, and there was a limited market for dry cord wood. We went into a nearby canon and cut cord wood, and snaked it out and hauled it to town. In a new country there are no roads; you go to town the shortest and best way, and you are fortunate if you can haul a half cord of wood 10 miles to town and not have to unload and carry it 15 or 20 rods across a mud hole more than once. We bought wheat at 75 cents per bushel and flour at $1.50 per cwt. for a short time, but the merchants soon formed a combine and ran the price of flour up to $2.50 per cwt. The last half cord of wood we hauled to town, which was later in the spring, we got 50 pounds of flour for. When we first "squatted" upon our claim, for shelter we dug a hole in the ground, 8x12, and roofed it with poles, brush and dirt, and after we had been rained and snowed on, and been roasted on one side and frozen on the other, and been blinded with smoke, and had our food covered with ashes for a month, by camping out, that hole in the ground seemed like a palace to us. We had a fireplace in one corner, and to be able to sit and eat our meals, or rest, where it was dry and warm, only those who have camped out in inclement weather can fully appreciate. About June 1st the boys went back for the rest of the family, and I was left to "hold the claim down," watch the crop and plant garden. My supplies then consisted of one and a half bushels of wheat. I tried cooking it whole, but I soon hunted up a rock, dishing as much as possible, and another rock for a pestle, and with this improvised mortar I ground my wheat and made stirabout. When the family came we piled our furniture up and when the grain was ripe, we cut it and covered the furniture up with part of it and stacked the balance. Our first crop yielded 4 loads, or about 3 tons of hay, by measure. This was kept to feed a cow and calf that we had bought on time. Our horses being bred up from Indian stock, when not at work, had to rustle their living. What time we had to spare my oldest boy and myself went 150 miles to work around a threshing machine for $1.50 per day and board, from 5 o'clock in the morning until 8 o'clock at night. With what money we had to spare we bought apples, beans and some wheat. Our food the first winter consisted principally of graham bread, apples and what milk we could get from the cow. A Government sawmill was brought into the country to saw lumber for the Indians and we succeeded in getting 1,000 feet of rough lumber, which was used to floor and roof a log shack 14x18. For a light we used slivers of pitch pine, until our lungs were that full of pitch smoke that we would cough up phlegm as black as soot. Groceries were out of the question. During the first winter, between storms, we would go out to our wheat stack and pull out some wheat and thresh it out in our wagon box, clean it up in the wind, and as we had a hand grist mill, we would grind it into graham flour. The second spring we had a skeleton of a team, but we made out to get our ten acres of a crop in, besides more of a garden; our first garden amounted to nothing. Our Senator, unsolicited, sent us some Government garden seeds, and those seeds seemed like a gift from Heaven, and we were enabled to have a greater variety of garden stuff. That summer I traveled 150 miles afoot to find work, and then had to work at my trade (carpenter) for $1.50 per day and board myself. Work was scarce and the trades unions were determined that no one not belonging to their union should have work, so I had to take what I could get and at such price as I could get. That fall we harvested 300 bushels of wheat and the same amount of Belgian carrots, besides potatoes and garden stuff enough for the house. We hauled wheat that fall 40 miles to a grist mill and gave one-half toll for grinding. We then had white bread to eat, and by trading some wheat we got groceries, and that winter we had a stable for our stock. Although their feed was but wheat straw and carrots, yet they kept in fair flesh and the third season (1898) we were able to break up the balance of our tillable land, and that season we had about 28 acres of a crop, and harvested 400 bushels of wheat and 200 bushels of oats. The oats we kept for feed, and as wheat was our money crop, we hauled that to market, 60 miles distant. It took five days to make the trip, three going and two coming. Two and three settlers would go together, in order to double up across the bad places, and up the steep hills 25 bushels was all a 2-horse team could draw besides the teamsters, bedding, provisions and grain for the team; hay we would have to buy along the road; it cost 50 cents per day for hay. Threshing cost 5 cents per bushel, besides boarding the threshing crew. Sacks cost 9 cents each. Wheat was worth, delivered at the railroad, sacked, 48c. per bushel for No. 1 and 45c. for No. 2, with a dockage of 1 pound for each sack. Sometimes we would get No. 1 and sometimes No. 2 for the same wheat. That was the first and last time I hauled grain to market. We overcame these difficulties by "bull dog tenacity," by practicing the most rigorous economy. "Do or die" was our motto. We got the best breed of hogs and cattle and fed our grain. Of course the change was slow; it took us five years before we could pay for our cow and calf. Gradually easier grades were found, the bad places bridged, roads laid out, churches and school houses built, and rural free delivery routes secured, and now, after 7 years of pioneer life, we have $500 worth of stock and our improvements are worth $1,000, and our land is worth $1,000. But if we had it to do over again, we would rather go into an older settled country, where there were better markets, and roads and schools established, even if we had to pay $4,000 for the same amount of land, providing we could buy on time, than undergo the hardships incidental to pioneer life upon a piece of Government land. We are keeping up the fertility of our land by returning the manure to the land and by growing clover and alfalfa, and ourselves by subscribing for the best papers we can. It takes a Southern man to understand the negro problem, and it takes a Western man to understand the hardships the pioneers have to undergo. And if those that were so strenuous in their efforts against the "Free Homes" bill had to go through the fiftieth part of the hardships a pioneer on a reservation had to undergo, there would not have been the slightest opposition to that bill.

E. W. Casebeer, Alice, Mo.—Four years ago we commenced farming under adverse circumstances. Bought an old, poor, worn-out farm that was literally covered with sassafras, post oak, grubs and briars. Poor fences and buildings, and no water but an old leaky cistern that was dry most of the time, and with a mortgage on it for two-thirds of the cost. There was not an acre of grass or pasture, no cross fences nor timber to make any, and the severe drought of 1901 made difficulties enough that if they could have been foreseen, the attempt would never have been made. But we have been a reader of the P. F. for ten years, and the knowledge thereby gained, with lots of hard work, has begun to tell. There are 80 acres of our farm, about 60 of it tillable. All is seeded to timothy and clover, or is corn on sod, except about 5 acres. We have followed the practice of wheat after corn or peas seeded down with the wheat. Use fertilizers on wheat, which helps to get a stand of grass and clover. We spread our manure as fast as made, on the wheat during winter. We had one cow when we came here and she choked to death. Now we have eleven head of cattle, fifteen sheep, five hogs and our team. One hundred and twenty-five dollars will pay all we owe, and most of this is for machinery and fertilizers. Last season one piece of our wheat made over 30 bushels per acre, another 23, and have a fine stand of grass and clover over all of it. Some said we would starve out as the man did we bought of. The most of the credit for this belongs to Prof. Massey, T. B. Terry and the P. F. Your advice is always sound and practical. We have not built any yet; have drilled a well, paid up our debts, and what was left was put in stock, machinery and fertilizer. Putting crops in in good shape, tending them well, clipping wheat stubble, making, saving and using all the manure we possibly could, with prompt payments, has helped us wonderfully.

J. L. Gander, R 5, Rich Hill, Mo.—The writer of this sketch, in partnership with his two brothers, began farming at the early age of 14, the eldest brother being 18. Our personal property at that time consisted of a team of very old horses, five or six scrub cows, a few hogs, one plow, one cultivator, a good farm wagon, several of the smaller implements, such as hoes, axes, etc., and a poor set of harness. The farm was our mother's, and contained 123 acres free of debt, 60 acres cleared land fenced, balance in timber, but not fenced. The buildings were a good dwelling, smoke house and a small shed for the horses. After our father's death, which occurred when the eldest brother was only 13, the farm was rented for the thirds, but five years of this practice saw the yield of crops so diminish that the land would no longer pay expenses and furnish a living. We then took charge of it on condition that we pay all expenses, clear up the land, fence and improve as fast as time and means would permit. For a few years crops were put in by borrowing or hiring tools as we needed them. Then our greatest difficulty came with the death of the team of old age. Having no money, and being only boys, friends and neighbors would not trust us with a team on time. At last we found a man who was willing to sell us a team of young horses for $200 on two years time, taking our note at 10 per cent. interest. Two years passed; no progress had been made, but the man kindly renewed for another two years. From that date our fortunes changed. We subscribed for good farm papers, established a system of crop rotation, corn, oats, wheat and clover, and began grading up our stock. The team was paid for and others bought, as well as all necessary farm implements, including self binder. To the original farm has been added at one time 117 acres, which has been paid for, and at another time 120 acres, going in debt for part of it. All of the original farm is now under fence, partly with woven wire. There is also a good barn, hay shed, tool shed, and sheds and enclosures for stock. The land, too, is producing a third more per acre than when rented. I attribute our success to the reading of good agricultural literature, hard work and perseverance. What is here related has been accomplished in sixteen years; of that time the writer has been a reader of the P. F. for twelve years.

A. J. Umholtz, Tum, Ark.—I was raised on the farm, but commenced teaching school at twenty, and prepared myself thoroughly for that profession and followed it for fifteen years. My wife and I got tired of living in town, so bought a farm of 80 acres on time, in Central Kansas, with little improvement on it. We only had a pony and old spring wagon, and had to buy on time what little we bought of farming implements, etc. It was up-hill business with so little means. Then when we thought we had a start a severe hail storm struck our place, destroyed the most of our crops and ruined nearly all the fruit trees and plants we had put out. The years following droughts and hot winds discouraged us and we sold out what little we had and moved to Johnson Co., Ark., on Mulberry Mountain, with the intention of farming and raising fruit. When we landed here on a rented farm we had a small mule team and an old pony, old wagon, some old farming implements, household furniture, a few chickens, five small children, $20 in cash and some debt behind, and knew nothing about farming in this section. Not a very bright beginning. Traded the pony for cow and heifer. The first two years lived on a rented farm grown up with sassafras and nearly half being planted to young apple orchard that the previous year had no care. By pinching we made a living, paying one-half the rent by improving the place. We then bought 40 acres of railroad land for $100, having four years to pay for it. It had about 4½ acres cleared on it, a small log house and stable, for which we paid $25 to the party who had made these improvements; the rest of the 40 acres was heavily timbered and considerable underbrush among the timber. We were 13 miles from town and railroad. We set out, the first spring, 100 seedling apple trees, some peaches, cherries, pears, plums and strawberry plants, on the few acres cleared. We cleared as fast as we could, and a few years got some land of neighbors to farm on shares. Raised some potatoes and garden truck to sell, and eggs and chickens, and taught, by request, a few terms of school, and from the small means thus obtained managed to make payment on land, pay taxes, buy clothes, etc. We lived close; nothing was wasted that could be helped; no money or time was spent on tobacco, liquor or unnecessary things. Began to keep a strict record of all expenses, income and what each crop produced. One year we lived on an income of $100, including what we fed to team, and there were nine of us in the family. Yet I think we set as good a table as any of our neighbors. As ge got more land cleared we set out more fruit trees of various kinds, and small fruit of different kinds, so that at present we have nearly all kinds of fruit that can be raised in this latitude, of the best quality. Grafted considerable of our own fruit. Have about 14 acres in fruit. We always managed to take three or more papers to read, to be posted. Now we take 11 or 12 papers in our family. The income from our small farm is more than I ever received as principal of town schools, and we live much better than when we lived in town, having plenty of fruit of various kinds nearly the whole year around. And the income of our farm I expect to double itself every few years, as our apple trees are just beginning to get the size when they can yield big crops. Also by carefully saving the manure and planting plenty of cow peas, I have my land so it will produce one-half more than it did when in its prime (?); that is, when it was new, and expect to continue to make it richer. Had we taken such papers as the P. F. when we first came here we might be twice as well off.

R. P. Streit, Nesbitt, O. T.—I commenced farming by spending all the money I had ($120) for a span of yearling mare colts and working by the day on the farm for a living until they were old enough to work a little. When they were two years old I worked them enough through that season to raise feed enough to keep them a year, or until another crop was raised. I had everything in the implement line to buy, and to rent land to farm. But I was not very easily discouraged and set my mind to do in the best manner possible all that I undertook to do, and was careful about making. If I could make or save enough by having a tool to pay for it, I bought it even if I had to go in debt for it. I farmed rented land for eight years and then by moving from Indiana to Oklahoma I was able to purchase a home of 80 acres, full of black jack and post oak grubs, with the largest portion of them under the surface of the ground. Have been here two seasons, digging out roots and tussocks of blue stem and getting the land under cultivation and experimenting with cow peas, Kaffir corn, sorghum and vegetables, while I raise corn, wheat, hogs, chickens and cotton to support my family and pay for wire and lomber to fence the farm with. My greatest difficulty has been to keep from buying things I could squeeze through without, because people were so anxious to sell

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70 INDIA ST. BOSTON.

what seemed the very thing needed. Have improved myself and farm by studying the soil, farm papers, Experiment Station bulletins and what I could see of other people's experiments.

E. E. Lawrence, Spafford, N. Y.—I could fill your paper with interesting accounts of our farming experience for the past 28 years, how we came from the city to a poor, run-down farm far removed from friends and relatives, but space forbids, so will try and be brief. In the year 1875, thinking it better for a family of children to be reared in the country, we made arrangements and traded our house and lot in the city for a small farm of about 70 acres and assumed the mortgage of $1,200 that was held over it. We arrived late in May without an implement or stock of any kind—only household goods. This first year was a struggle full of discouragements, but we won out and existed. Besides the poor and weedy condition of the soil to contend with we had the buildings to repair and make comfortable, also fences to build to keep off neighbors' stock. We had quite a struggle with weeds. Burdocks grew all over the door yard and garden so thick one could not pass through them with comfort. One field of "live forever" took years to exterminate, but as the years rolled by our children grew and became of great assistance. We improved the soil by buying manure at the village (three-quarters of a mile away), careful tillage and rotation of crops. Our barns have all been rebuilt, also fences, and house made as good as new. Stones removed from fields, fruit set out, a good garden and thoroughbred stock add to our comforts and pleasure. Also all the good reading we can digest.

D. James, Longstaff, Ont.—Commenced in debt $3,000 upon a 150-acre farm. Fences down. Had not been cropped for two years. Only one gate on the farm. House an old frame one and very cold. Barn on ground. No orchard or garden, nor a single underdrain upon the farm. Canada thistles growing four or five feet in height. Wild mustard in 20 acres of the farm that had to be mown to keep under. Pine stumps on 60 acres of it. Red root or pigeon weed growing in most of the fields. The farm cost $7,000. Paid in cash $4,000. Then married a fine, healthy young girl thirty years ago. Borrowed money for stock and implements. Late in spring before finally getting deed of land. First year sowed 30 acres of peas, too late for anything else; summer-fallowed 30 more and sowed fall wheat. Determined to have a clean farm; succeeded in about six or seven years, so that after that time we just watched each growing crop. Do not need to spend two days a year with the weeds now. Then I determined my farm should be clear of stumps, and be underdrained; fifteen acres a year, my motto, for a few years, stumped and underdrained, during summer and fall if necessary, June being my month. Hands cheaper, work not pushing then, field ready for fall wheat. In three years the extra crop paid for extra labor. Also raised the old barn. Built a new one, stabling under all. In the meantime repairing and moving all the fences. Larger fields and more even size. Preparing for a new house. Built a solid brick one at a cost of $2,000, besides my labor of hauling all building material and excavation; stone and sand we had of our own. Never appeared to be in need for money. It just seemed to come when wanted. Should have said that I planted 3 acres of an orchard. Got fooled to some extent by the tree agents, but have top grafted them since. Made it a rule to pay as you go. Out of debt. Money in the bank. Not getting rich fast enough, invested in stocks and building lots. Lost one-half of investment. Glad to get out with that. A good investment for my boys (five of them) as a warning to stick to farm investments. Built a large new bank barn, stabling for cattle and sheep underneath. Hog stye away from barn. Keep fattening from 20 to 30 all the time. Bought the farm adjoining, 150 acres; paid $10,000 for it. Then stumped and underdrained on it what was needed. All paid for. Boys going to college; one starting in the Northwest, still working away. Never without a few sheep. Keep weeds down. Dairy cows and hogs best paying factors. Made it a rule to hire only the best farm hands. Do our own butchering. Sell all, or nearly all, of our butter (60 lbs. weekly on average), eggs, poultry, lambs, apples, potatoes, direct to the consumers in Toronto, going down once each week every week in the year. Have our regular customers. Keep farm accounts. Believe in, and have planted trees in plats about the farm. Have spruce and cedar wind breaks. This spring have planted a shrubbery of 25 different kinds, all flowering or beautiful for their berries. Have a library of over 700 volumes. Take three American agricultural papers besides our own. Have served in various capacities in public, such as trustee, engineer, on board of health and councillor. Love farming for its own sake, not merely for the money there is in it. Not very fashionable in my suit, but want to be up-to-date in my farming methods. Always anxious to read and learn, but I want to think it out for myself. If I have had any success would attribute it to love of farming, pluck, perseverance, economy, industry, temperance and a good wife.

R. L. Goodwin, Fort Pierce, Fla.—I commenced farming with no experience. I had been in active business in the city till I was broken in health and finances. I had only enough money to pay one-fourth of the price of my farm, consisting of three acres of pineapples and one acre of black hammock soil, suitable for trucking. I had no house on the farm, and a neighbor kindly placed his house at my disposal for five months. I needed money to buy seed beans, and fertilizer and provisions. My wife owned a gold watch and diamond ring. These were sent to New York and pawned at 1 per cent interest a month, but it was enough to give us a start. I put in a crop of string beans and in seven weeks I had money coming in from the New York market. Frost killed some of my crop, and as I had figured on this possibility, I had reserved some beans for seed and planted the next day. This crop paid big, and when my time expired in my neighbor's house I had enough money to build a $400 house, with $200 remaining unpaid, to be paid for in 60 days. My pineapple crop was coming on and from the proceeds I paid the balance on house and part of the mortgage on the farm. The first year of my farming the only tool I owned was a scuffle hoe, and I nearly wore it out. A doubt never entered my mind but that I would succeed, for I felt that after working at 34 different occupations I had at last found the business for which I was fitted. Difficulties were no difficulties for me; they aroused my combativeness and I conquered them, and after a difficulty is conquered it is no difficulty. I was a greenhorn at the business determined to learn. I borrowed agricultural books and papers until I could buy some. I practiced what I read, experimented carefully, observed what my neighbors did, asked and took advice. After my farm was paid for I bought another. Both farms had been badly run down. I worked and schemed to improve them. I studied Voorhees' "Fertilizers" and P. F. until I became able to compound my own fertilizer mixtures and save $6 to $8 per ton. Last season I put on $60 worth of high grade fertilizer to the acre and it paid big. In September, 1899, I had $200 and a wife. The wife has been instrumental in my success, in being economical, in feeding me closely to give the plants plenty of high grade food. In three and a half years I have improved my places till they are now worth $6,500 and I have offered them for sale at that price. My books and the P. F. have taught me, together with my experience, that with the proceeds of my two places when sold, I can invest my capital in the soil elsewhere and do still better. I am convinced that if a farmer can succeed on the poor, barren soil of the Indian River country he can succeed elsewhere. This summer I intend to prospect in the Carolinas for a permanent home where the mosquitoes cease from troubling and my wife can take a well earned and needed rest.

J. Newton Glover, Vicksburg, Pa.—I commenced farming on 106 acres of heavy limestone clay farm which had been tenanted over 20 years and had not been limed in that time. Had three good horses, very ordinary cows, and mostly old implements. Found many rocks or "nigger heads" above ground in the fields, which we dug out and hauled off for ditching or road making. Six acres were too wet to farm, so put in stone ditches and tile drained, and now have good wheat on meadow land, which was never farmed, would not grow good grass for pasture. Have nearly two acres yet which I expect to tile drain this summer, then all the land will do to farm. I began hauling a thousand bushels of lime every year till I was over the farm, and put on from 60 to 100 bushels an acre on the stiff clay which works some better than formerly, yet it always plows hard and breaks up in clods. According to Prof. Massey's idea cow peas will not do very well in this latitude or on heavy clay, so my only hope of improving my soil is by red clover, which does better since applying the lime. After farming nearly two years for the half, I bought the farm, then sold off ten acres furthest from the buildings, and now raise more grain and hay, keep more stock on the 96 acres than I did on the 106, and have some timothy hay to sell each year. Without using any commercial fertilizers other than the lime, and by applying the manure three times a year the farm has improved greatly in nine years. As to myself, I attend the Farmers' Institutes in the county, the meeting of the State Board of Agriculture twice a year, take four agricultural, two county, one daily, three religious papers, and took a correspondence course in agriculture at State College during two winters. Have had both house and barn painted, made all good fences on the farm, started a nice lawn and have plenty of fruit trees near the house, with a fine orchard coming on. Have mostly new or good implements, buggies, harness and better stock. But my heavy clay and limestones, like the poor, will "always be with us."

Mrs. A. A. Watkins, Manson, N. C.—We commenced farming on rented land, and kept it up for 20 years, and at the end of that time we were just where we started, as far as spot cash was concerned. Though we worked early and late and denied ourselves every luxury, by the time the landlord, the fertilizer men and the hirelings were paid, there was only a small sum left and that must be kept to make another crop. We arranged to pay $150 per year for the land, which amounted to $3,000 in 20 years. A nice little sum for the privilege of being somebody's slave. I received $300 from my father's estate, and we made a first payment on a tract of land in a very desirable location. There was a 6-roomed house on the place, and land was poor, but we found it easier to improve land, and repair a house than to give a bigger price for land and build from the stump. In twelve years we have paid upwards of $1,500 and had the chance to improve the place to such an extent that it is worth twice as much as it was when we bought it. We improve the land with clover and cow peas and by keeping stock. In winter we are constantly hauling pine litter from the old fields. We keep the barn lot a foot or two deep all the time, and as the stock tramples it down we haul in more. I have only one son, but none of us mind work, and we take the advantage of every circumstance to better our condition. We make almost everything that will grow in this section for family use, and sell butter, eggs, milk and many other things to buy groceries and clothing. We abstain from buying things on credit, even if we have to do without some non-essentials. But the fact that is most conducive to our contentment and well being is, we live in a community of the best people on the face of the earth, where every man has six months of the year to mind his own business and six months to let other people's business alone.

Maurice Wentworth, Dover, Me.—I was born and lived on a farm until 14 years old, when my father bought a house and small lot and kept a horse and cow and a few pigs, and the work was done by myself and younger brother. When 15 years old I raised 119 bushels of potatoes and a lot of other garden truck and the next spring married a girl of 14 years, much to the anger of her and my friends.

[Our friend then gives a long, detailed account of how he and his wife worked at various jobs and lived in shacks and tents, earning a living mainly at cutting wood, his wife working with him at everything. His wife picked berries and walked 12 miles to sell them. In all a very pathetic account of a struggle to get something to eat. Finally a man offered to sell him a vacant farm of 36 acres for $350, to be paid $50 down and $50 a year. He worked out the cash payment and left his wife on the farm, sending her part of his wages monthly. She bought a cow and some hay and hauled it three miles on a sled she had made herself. Her young brother come to help her and when he got home he found a supply of ten cords of wood on the place. Then he made a plow beam of a piece of cedar and used it for five years. They managed to pay for the farm by degrees, and bought other cows and two horses, and by working for wages with the team in winter they managed to get along, until finally before the birth of his second child his wife fell down the cellar and was so injured that she died. His son is now 19 and in a machine shop and doing well. We wish there was room for the full account, as it shows how a man may, after making the serious mistake of marrying too young, gain the respect of his friends and gain a place in the world. But the letter is eleven closely written pages and is too long for the Pool.—ED.]

Albert Murphy, Gordonsville, Va. — Wife and I commenced farming 34 years ago as a renter. What seemed to us to be our greatest difficulty was lack of means to begin right. I bought a cheap team and very old wagon. The first year we did without everything we could, and borrowed most of the balance from kind neighbors, except plow and cultivator, which I bought; the best that could be had. I planned to keep myself and team constantly employed. To get a better wagon I paid a workman in farm products to build me a new one, using the irons from the old one as far as possible. To get a better team I commenced raising colts. To get a farm of our own I invested all I could in calves; and with help from home made payment on an unimproved prairie farm. I continued to raise what stock and grain I could to make payments. Wife raised chickens and garden, made butter, took in boarders, etc., to help supply family needs. Before we paid out we sold for nearly three times the original cost, and bought a poorly improved old farm, paying for it in full. I put on what stock the farm would properly support and commenced growing clover in rotation with grain crops on the high land, and tiled the low land; and in a few years had an excellent farm, which sold for nearly double what we paid. We improved, and more than doubled our money on one farm since. I have since discovered that I have been too busy most of my life improving farms to take proper time to improve myself. I commenced reading the P. F. about eight years ago, and soon discovered that much of my past energies had been misspent for want of proper knowledge. Now, as I am retiring from the field of activity, I urge young men to read the P. F. and start right.

SUMMARY.

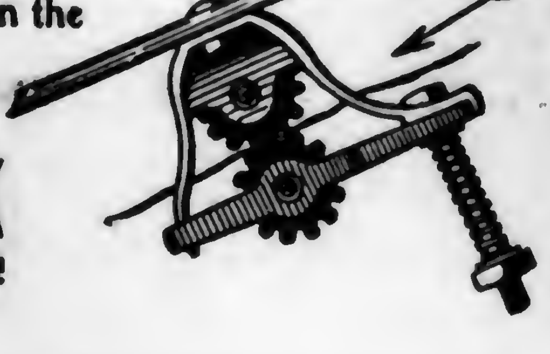
The letters we print today tell of struggles that have been repeated on a thousand farms all over the land. They tell of the grit of the American pioneer in the far West, and the battle for a home in the East. The yearning for a home of one's own is born with most of us, and the letters give evidence that in any part of the country a man can make a home and get independent on the farm. From Idaho to Florida and Maine the same stern pluck carries a man through. The saddest story is that of our young friend in Maine, who lost his plucky wife just as they were attaining success in getting their home. We are sorry that we could not give his own pathetic story in full, but space forbade. It is for just such struggling men all over the land that the P. F. is working, and it is pleasing to note that in every instance almost, the success came after the man had gotten to reading and studying his profession. The letters today are very encouraging to those of us who, after fighting the battle are endeavoring to help those still in the struggle. Reading these letters brings back to one the days of his own struggles. Only a few days ago we met on a visit to Maryland, some gray-haired men who went to school with us 43 years ago, when teacher and pupils had to go into the woods at noon and cut and drag up wood for the old ten-plate stove. We could tell of a little rented farm of 30 acres and a young wife left there alone when we went off with a musket, of other rented farms and hard days work, of success that came with a rush, and went faster when we tried to pay other men's debts, of working as a hired gardener for wealthy people, of improving land for other people and all the time getting the education that fitted us for what has come to be our life work, and prepared us to sympathize with those in like struggles. Friends, your Editor has "been there," if you will pardon the slang, which is so expressive, and what he writes in the P. F. he has learned through hard knocks. Experience is a hard school, but a thorough one. May success come to every reader and student of the P. F. The greatest reward that comes to us is the consciousness that we are helping some struggling men towards success.

FITS
If you suffer from Epilepsy, Fits, Falling Sickness, St. Vitus's Dance, or Vertigo, have children, relatives, friends or neighbors that do so, or know people that are afflicted, my New Treatment will immediately relieve and PERMANENTLY CURE them, and all you are asked to do is to send for my FREE TREATMENT and try it. It has CURED thousands where everything else failed. Will be sent in plain package absolutely free, express prepaid. My Illustrated Book, "Epilepsy Explained," FREE by mail. Please give name, AGE and full address. All correspondence professionally confidential.
W. H. MAY, M. D.,
94 Pine Street, New York City.

ARMOUR'S BLOOD MEAL. The Potent food for work horses, cows, calves and poultry. Booklet free.
The Armour Fertilizer Works, Chicago, Ill.

IOWA FARMS For Sale $45 to $65 Per Acre.
We offer improved Iowa farms close to church, school and town, with local telephone and rural mail delivery, soil rich, black loam, and level, at $45 to $65 per acre. We also have special bargains in North and South Dakota and Canada. If you wish to buy or sell land or city property anywhere, write to us for confidential terms. We make a specialty of long range sales, so no matter how far away you live, if interested, write us. We refund railway fare to parties who buy of us. Send for price list with pictures of farms.
THE JOHN M. CANNON LAND AGENCY, CRESCO, IOWA.

A
WINNING POINT
is the roller twine tension on the
McCormick

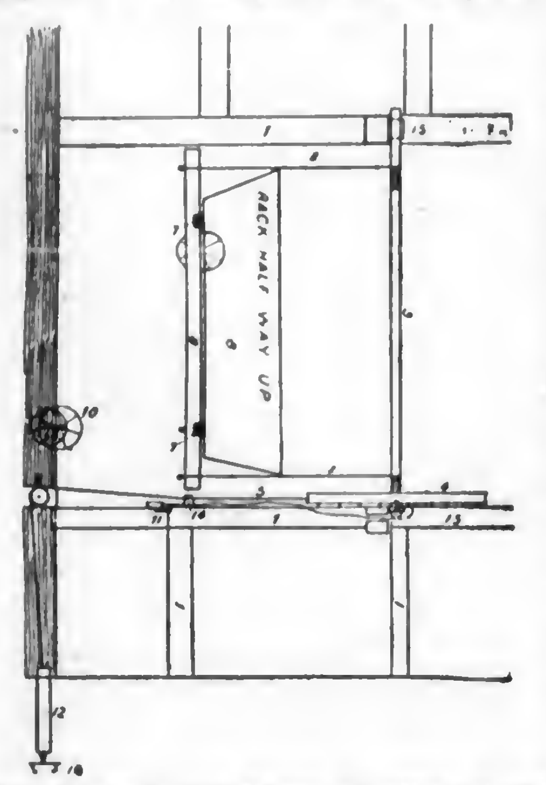


TO SEE THIS TENSION
work satisfies everyone that it is the proper idea for a successful binder. The McCormick twine tension saves a lot of time in the harvest field, and time at that season is big money. The illustration shows the two corrugated rollers through which the twine passes to the needle. They prevent the curling or kinking of the twine.
O. H. BROWNING, General Agent for
McCormick Machines, Philadelphia, Pa.

Farm Implement Annex*
To The Practical Farmer.

It is the purpose of this department to assist P. F. readers in securing the best implements and machinery for doing their work, and to so adjust, manage and care for same as to get the best possible returns from their use. We invite subscribers to write us fully and freely in regard to farm implements and machinery. Pointers on selecting implements for various kinds of work and soil; on buying, operating and caring for them; their defects, improvements, attachments, adjustments, etc., will be welcome. A cash prize of 50 cents will be paid for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Put at top of each article For "Farm Implement Annex," and send to Geo. T. Pettit, Box 32, Oneida, Kan.

Elevating a Load of Hay. — No. 1 shows the beams of the barn; No. 2 the 1-inch ropes that haul up the load; No. 3 the roller that rolls with wheel and winds rope up. No. 4 is the big wheel on which a ⅜ rope is wound. In hauling up the load this rope unwinds, and in letting it down the rope is wound up. No. 5 is the ⅜ rope. No. 6 is one of the two beams that go on either side of load and which the 1-inch ropes pass through. No. 7 the cross-pieces that go under rack and rest on the beams on each side. No. 8 is the rack; No. 9 the pulley.



No. 10 shows front wheels of wagon on the floor; No. 11 the weights that hold the clogs. No. 12 is the log that we haul out by; No. 13 the clogs; No. 14 are two rollers that the ropes pass under. No. 15 is a piece of wood which end of big roller passes through and which forms a bearing for same. No. 16 is the singletree. S. BLAISDELL.
Skowhegan, Me.

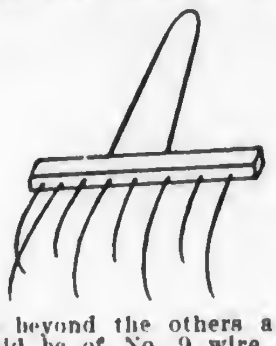
Our $15 Wood Saw.—A neighbor and myself having a horse power which we purchased some years ago to run our fodder shredder with, we also bought a second-hand wood saw for $15. We more than paid for it the first year by sawing for ourselves and neighbors. When sawing for others we furnish two teams and three hands besides the machine, and get 50 cents per cord for sawing. We saw about 3 cords per hour. But the best part of it all is that we can have our year's wood all sawed in the winter when we are not very busy, so we don't have to stop when we are rushed with work, neither do we have to burn green wood. And wood sells better on the market all sawed up than in cord wood, for it is difficult to get hands to chop it.
Gordonsville, Va. F. E. LITTLEFIELD.

The Best Farmers' Liniment. — We use what we consider the best liniment on earth. It cured one of our mares of fistula; and, in fact, is far superior to anything we ever used for sprains, backache, sores, and, in fact, anything a liniment can be used for. Take equal parts of lard, camphor, hartshorn, coal oil and turpentine. Put all into a bottle, hold over fire till thoroughly dissolved and shake well before using.

Care of Plows. — Some farmers leave their plows where they last use them. They rust and in the spring it takes a long time to get them to scouring. We always put our plows in shed and grease with axle grease. This comes right off before we go around the land and the plow shines like a new silver dollar. It pays to care for all the tools, for they cost money.
Paradise, Ore. NORMAN STRALEY.

The Sawing Machine. — The difficulty of getting wood can be overcome by using power saws and preparing the wood in the latter part of winter or in spring when field work is impossible. Most farmers now have a windmill, a threshing engine or a tread power to use for other purposes. By expending a little more money and getting a good saw, the matter of preparing the wood supply will be a comparatively small item. Formerly the saw was an expensive part of the outfit, but manufacturers have put cheap and effective ones on the market, and there is little excuse for not having a good supply of stove wood always on hand. It may not pay a farmer to purchase an outfit simply for his own use, but as in the case of the man who buys a threshing machine, a corn shredder and the like, one man can do the work for many families. The saw with its frame, etc., can be placed on a truck wagon and moved from place to place. Where the threshing engine is not available, the 2-horse tread power is most satisfactory for sawing wood. The machinery is light and an outfit of this kind will require but three men. Where the steam engine is used as high as 40 cords a day can be sawed. Sticks of cord wood sawed in three pieces will fit the ordinary stove. In addition to the many power saws there are quite a number of good hand saws now which lighten the work for the men who operate them. WATSON ROPER.
Smitum, Ga.

Convenient Hand Weeder.—This can be made in the following manner: Take a block of hard-wood 1 inch by ½ inch and 3½ inches long. Set five teeth in ¾ of an inch apart so that every other tooth will project



1½ inches beyond the others at the point. Teeth should be of No. 9 wire and slightly curved toward the point. Next put in a handle of heavier wire bent in the form of a loop. This is a fine tool to work in flower beds, seed onions, young salsify etc.
Iola, Kans. C. F. BARTH.

Barn Doors Again.—In the P. F. for Feb. 7th I noticed an article on hanging barn doors, "Shall they swing in or out?" I would say neither. Swinging in they will sag and rub the floor; swinging out, in a windy time they will swing you out with them. Let them be on steel track with single wheel. Anti-friction, where several small rollers are encased, will wear flat, which causes them to wedge. I have them now. When new they work fine, but soon flatten and are no good. Another thing on the barn doors, have the smith make iron hand-holds to screw onto the doors to open and shut with. And when putting them on don't make the mistake my carpenter did by putting one on each door, both outside. One should be inside, then you can open from either out or inside.
Blake, Md. A. W. CATHERS.

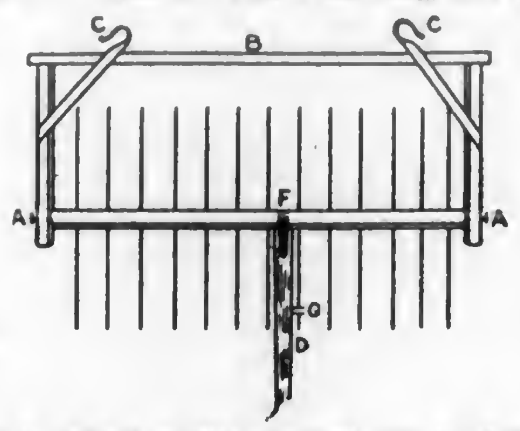
[Friend Cathers has given us some good ideas on the barn door question, but I wish to state once for all, that when doors are constructed to swing in, as described by Mr. Martin Sherwood, they positively will not sag and come in contact with the floor.—ED.]

The Swing Churn. — The "farm implement" which I am most familiar with is the churn. I use the swing churn and think it is hard to beat; it makes such a good quality of butter, and having no inside works, is very easily kept clean. That it is a well made churn is proven by mine, which I have used constantly for 14 years and it is still as good as new. This churn is very easy to work, and I either let the little children do the churning or take my chair and a newspaper or book and sit and read and churn, and the butter comes before you know it, almost. Of course, with this churn (as with every other) you must have your milk or cream in "perfect" condition if you expect "perfect" butter. MRS. E. B. LANGSLOW.
Farmville, Va.

Bettering the Weeder.—I have a Hallock Success weeder which gives very good satisfaction, but I believe it would be a more serviceable tool if the manufacturers would put in an iron rod securely bolted between the handles. I had trouble with the bolts coming loose, and in lifting with the loosened handles the frame became slightly sprung. I finally had new bolts made and braded in, then nailed a 1x2-inch piece firmly between the handles and then it worked all right.
Lebanon, Va. W. L. HARGIS.

Stone Sled.—A very convenient method of hauling stone from a field is to procure the fork of a tree and nail strong 2x4s across it, fastening a chain to the large end to hitch to. A large stone is easily loaded with a team, rolling it on. Hitch your team to the chain and haul it away. We use this method with success. J. S. ANDERSON.
Oak Knoll Farm, Oneida, Kan.

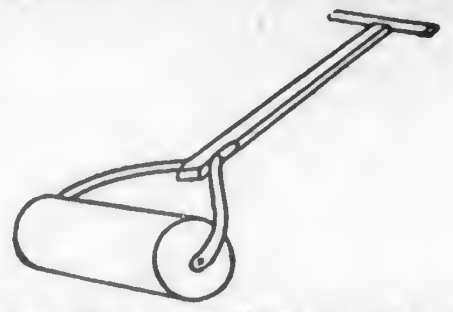
Revolving Hay Rake. — Last summer I made a rake in a day's time that did just as good and quick work as a steel tooth rake, and as easy, too, with the exception that the operator had to walk. To make such a rake take a clear 4x4, 9 feet long and through it bore thirteen 1½ inch holes 8 inches apart. Make 13 teeth 4 feet long to fit the holes tightly, and drive them half way through the 4x4. Take two 2x4s 4 feet long, bore ⅝



or ¾ hole 6 inches from one end of each; place one at either end and drive pieces of headed rod through the holes and into ends of rake head. These are indicated at A A. Nail a 1x4, 9 feet 4 inches long, across the ends of the 4-foot pieces, B. Make and attach two braces with hooks on one end to hitch to C. Also a lever that crooks at D so you can get hold of it at E without stooping. Round off the corners of the 4x4 at F, and attach the lever with a piece of strap-iron reaching clear around the 2x4 and fastened on both sides of the lever. Put two pins in lever at G, one to catch above and one below middle tooth. Point the teeth sled-runner fashion; front end of tooth must be tapered below and rear end on top. To rake, hitch horse to hooks, and by means of the lever make teeth run on ground under hay. When you have enough for a windrow lift up on lever until teeth catch in the ground, then pull lever sidewise to let go of tooth; the draft of the horse will revolve the rake, discharging the load and it is ready to go on raking another windrow.
Greenleaf, Ore. MARION P. WHEELER.

[It seems to me that this rake would require a slow horse and a fast man.—ED.]

A Good Lawn Roller.—Get a 14-inch tile (a cracked or slightly damaged one will do). Now get a small bar of iron long enough to pass through the tile and project about 2 inches at each end of tile. You will also need some Portland cement, good sand and small stones, and water. Pass rod through centre of tile and through a thin



board which has been fitted into one end of the tile. Stand tile up on end, letting the rod go in the ground. Now mix Portland cement one part, sand two parts, and then put a good layer of the mixed cement in bottom of tile as it stands on end. Wet thoroughly the small stones and add them alternately with the cement, keeping cement smooth next to the tile so as to have a smooth roller. When filled, let stand till thoroughly dry, then break the tile away and you will have a nice, firm hand roller ready for the handle. Have a blacksmith make two irons with hole in one end to go upon projecting ends of iron rod. The irons must be properly curved and approach each other so that a handle may be bolted between them. An old lawn mower will provide a handle. Can use a stronger cement with less sand.
R 19, Danbury, Conn. S. E. KELLOGG.

To Prevent Rust. — Melt together one ounce of lard and one of gum camphor. Skim the mixture thoroughly and stir into it a sufficient quantity of fine black lead to give it a color like iron. After cleaning the polished parts thoroughly, smear it with this mixture and let remain for 24 hours, then go over it with a soft cloth, rubbing it clean. Treated thus machinery will often retain its brightness for several months. Bicycle riders would find this preparation of value.
R 6, Nashville, Tenn. MRS. J. O. MILLER.

The Bad Boy's Bowel Blessing

Nature punishes every excess, not only of the bad boy, but of ourselves as well. Over-eating, over-drinking, under-sleeping result in bowel troubles liable to become serious.

"My children will take Cascarets sooner than any other medicine." —Mrs. Frank Mumert, Princeton, Ill.

"I am now using Cascarets in my family and they are wonderful among children." —Leo D. Thompson, Portsmouth, Va.

"Our little girl was troubled with constipation for over two years. Cascarets cured her. They are also the best remedy for colds we ever used." —Mr and Mrs. Ralph Dutord, Clayton, N. Y.

"I have used Cascarets and have found them a most excellent remedy for both myself and my children."—Mrs. Bridget McCrosson, 968 Bead St., Philadelphia, Pa.

"Cascarets are the easiest medicine to give to children I ever came across." —Mrs. E. F. Reilly, 4581 Calvin St., Pittsburg, Pa.

"My two boys think Cascarets are candy. I never have to insist on their taking them. I sleep with a box of Cascarets under my pillow. No home should be without them." —Mrs. G. A. Prescott, Chicago, Ill.

"Cascarets are wonderfully good for children." —Mrs. Wm. Roan, Catamount, N. Y.

"We have used Cascarets for three years for the children as well as ourselves. They do just what they are recommended to do." —Mrs. P. M. Kolling, 416 Dock St., Steubenville, O.

Every good, healthy, hearty boy is sometimes a bad boy—bad to himself; and will do things in the green apple, mince pie or other over-eating line that will twist his bowels. Men are only boys grown tall. In such a case what is needed is not a violent physic that will rack the tender bowel tissues, but Cascarets Candy Cathartic, gentle but sure to act at once and put things right. They are the most perfect medicine in the world for all forms of indigestion, dyspepsia and constipation.

Cascarets Best for the Bowels. All druggists, 10c, 25c, 50c. Never sold in bulk. The genuine tablet stamped C C C. Guaranteed to cure or your money back. Sample and booklet free. Address Sterling Remedy Company, Chicago or New York. 585

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First Class Material, Merchandise and Machinery at Sacrifice Prices.

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Barbed and Smooth Wire Write for our prices on 2 and 4 point Barbed Wire, painted and galvanized; also, 65,000 pounds SMOOTH GALVANIZED WIRE SHORTS Gauges: 10, 11, 12, 13 and 14. Price $1.40 per hundred lbs. We also handle other kinds, write us your wants.

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12 inch........$0.45 per bale.
18 inch........ 0.65 per bale.
30 inch........ 1.10 per bale.
36 inch........ 1.35 per bale.
42 inch........ 1.60 per bale.
Other grades at correspondingly low prices.

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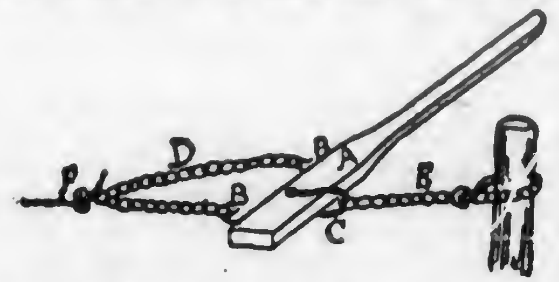
SHORT CUTS.
BY PRACTICAL FARMER SUBS.

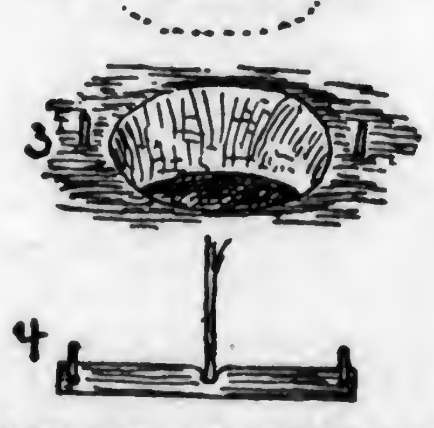
All other trades have resorted to "Short Cuts." To be successful farmers must resort to them, too. In this column we will publish all actual labor saving short cuts made by the farmer on the farm and the housewife in the home. Write and tell us of any labor saving tool you have made, of any method of management or manner of using implements to save time, labor and money, or increase their efficiency. Even the smallest things may be useful and valuable. Hints and helps in the household are always welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Write on postal cards and make articles short. All errors will be corrected by the editor. Address all communications under this head to T. Greiner, La Salle, N. Y.

Wire Stretcher.—The best wire stretcher I have seen is made as follows: Trim out of a piece of seasoned hickory or locust a lever, A, 7 feet long by 2½x4 inches at one end and tapering to a handle at the other. Put in two ⅝ hooks, B B, one 3 inches and the other 17 inches from the big end. Then fasten clevis, C, midway between hooks. Next take a trace chain and fasten a dog, F, to hold the wire, in its middle link. Take another chain, E, to fasten in clevis and around post or tree. To stretch, fasten the dog, F, to the wire to be stretched and fasten a link of chain, D, in each hook, B B, having



chain, E, securely fastened around post and in clevis, C. Then push lever as far forward as you can and hook up all slack in chain, D. Then pull lever and hook up slack at B, and so on until wire is tight enough. The lever can then be let go and it will hold the wire, leaving the operator free to staple. To stretch woven fence, make a clamp of two 2x4 pieces, as long as the fence is high, and fasten together by bolts between each wire. Fasten a fifth chain or cable rope at top and bottom of clamp, letting it run through clevis, C. Fasten another fifth chain around post or tree on opposite side of stretcher, letting it fasten in hooks, B B, and hook up as before. I stretched 25 rods with one hitch and it is as tight as can be. HOMER TINSLEY.
McCreary, Ky.

Tree Planting Board, for fruit trees and anything that is to be set out and planted straight in the row. Take a 1x4 inch



board 8 feet long. Bore a hole in each end one in the middle, which you cut out V-shape. 1st. Place planting board to peg representing tree mark. 2nd. Pull out peg and put one into each end hole. 3rd. Lift planting board and dig hole 20x20x20 inches. 4th. Place board with ends over pegs, fill hole with top soil as full as desired, place tree to be planted to the V centre, fill up and tramp firmly. This is an easy and rapid method of setting out fruit trees correctly. C. L. MOSS.
Hammonton, N. J.

To Remove Skunk Scent.—When you run up against a skunk in any way, try a smoke of corn cobs for removing the scent from clothing, buildings, etc.
Walcott, N. Y. DANA WALDRON.

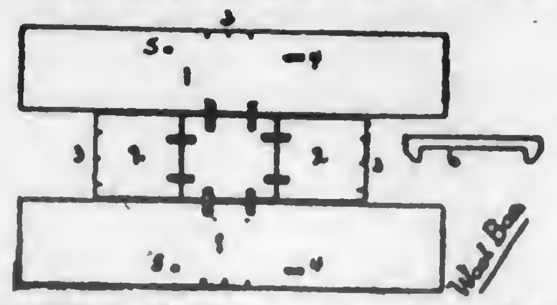
Keeping House Dress Clean.—When making a new every day dress, make a pair of over sleeves to slip on when cooking, doing housework, etc. This will save your sleeves so much. To make oversleeves cut them above the elbow and finish at wrist with a band and button. Pin them on above elbow. Get goods—cotton checks—and make large cook aprons. With oversleeves and a large apron on when cooking, you can keep your dress very clean. Let us study to economize. Have time for recreation and reading.
Fayetteville, Tenn. E. HINES.

To Improve Butter Flavor. — To get garlic or other weedy flavors out of the butter, bring the cows from pasture about two hours before milking time, and feed each cow about two tablespoonfuls of pulverized charcoal in some bran or chop feed.
Harrisonburg, Va. T. F. BRUNK.

Farm Fence.—To strengthen a fence of chicken netting and enable same to be used for a farm fence, run three strands of No. 9 wire along the line of posts before setting up netting, one strand at top, one in centre and one at bottom. Put a ratchet every 40 or 50 rods on each wire, to keep same tight, fastening on wires with staples. Then set up netting, fasten onto No. 9 wires with thin wire every four or five feet, and you have a fence that will not sag, will be always of neat appearance, and will prevent hogs from raising the netting.

Setting Out Plants.—When setting out sweet potato plants, a short cut may be made by dropping the plant with the root at the right spot; then pressing down root with a forked stick. Thus a man can set out plants as fast as he can walk.
Maryville, Tenn. ROBERT STANSFIELD.

Wool Box. — In this part of Michigan many use a box of this make for packing fleeces. Three boards 11 inches wide, the outer two 4 feet long; the centre of three pieces each 11 inches long. The centre board of these three is hinged to the outer two by small, flat hinges at 1 and 2. They are sunk in gains level with face of board. At 3 3 the boards are sawed down with slots



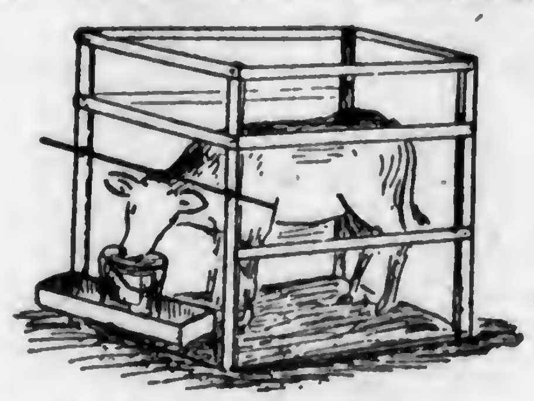
1½ inches deep to receive the twine. Some countersink gains at 4 and put in a flat wood or metal spring fast at the outer end, the inner end projecting to hold the end pieces when raised. Others bore a hole as at 5, and put a bolt across to hold them up. Some use a clamp sawed as at 6 to hold the sides together, others use a hook and staple or screw-eye. The box is strung across each way with twine, the fleece spread neatly over, best shoulder wool over X, the outside boards raised and fastened with 6, the fleece packed and tied. This makes a cube 11 inches on a side. E. HOLLENBECK.
Davison, Mich.

Doing up Traces.—Many farmers, when unhitching, fasten the traces in a short and abrupt knot. You will notice that traces generally become unstitched just where this abrupt turn is taken. To remedy this go to your harness shop and procure four snaps which are especially made for holding up traces. These snaps are fastened into the ring in the back part of the strap which holds the breeching. It gives the traces a long, gentle curve, and they are securely held up out of the way. E. R. DAVIS.
Box 582, Cazenovia, N. Y.

Fastening Wash Waists and Skirts Together. — A good way to fasten wash waists and skirts together is to fasten an inch-wide band to waist across back at waist-line. To this sew four flat buttons 1½ inches apart. To skirt band (inside) sew a button-hole piece or "fly" to match buttons on waist. For woolen dresses ball and socket fastenings put on in same way work admirably and are a great improvement upon the other modes of fastening. For wash skirts nothing makes laundering so easy as to have it fastened at back or left side seam with buttons and buttonholes, making the garment easy to dry as well as to iron. A. E. STORM.
Plessis, N. Y.

Hemming Table Linen. — Turn down hem in the ordinary way. Use a fine, slender needle and fine thread. Start hem by enclosing the knot of the thread. Turn the hem back from you with the two edges upward. Now overcast, as you would a sheet, except use the needle straight with the grain of the linen. This stitch is entirely different from the old way, and if done neatly you cannot tell which side the hem is on, and you can use either side and it will be the right side, as the work is with the weave of the linen. Never hem damask on the machine; it will catch particles of dirt and it never has that daintiness that nice hand work does. German linens have the softest finish for a needle. ANNIE J. PADDICK.
Chauncey, Ill.

Teaching a Calf to Drink. — Make a frame to suit the size of a young calf. In front is a raised box just large enough to place in it a milk bucket. The calf is ushered into this narrow "stall," its head pressed down so its nose will nearly reach the milk and its head secured there by a sliding pin which works in the frame just over the calf's neck. The opening for the animal's neck, both vertical and horizontal, is so narrow that it cannot move its head much, only in a downward direction, and that



forces its nose into the milk. The stall is so narrow that the calf can move only a little from side to side, and the closed gate behind it prevents any backward movement.
Taylorstown, Va. EDWARD C. SPRING.

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The Acme Pulverizing Harrow.—To the happy-go-lucky farmer who is content with slipshod methods and who sees no necessary connection between right cultivation and good crops, one make of harrow is perhaps as good as another. But to him who is content with nothing short of the best possible seed bed, who insists that the clods must be pulverized and reduced and the soil leveled up to the end that each seed may quickly germinate and grow without hindrance into a strong, fruitful stock, there is a deal of satisfaction in using the Acme Pulverizing harrow. It is a harrow which does just those things which a harrow ought to do and does them in the right way. It crushes and pulverizes clods and lumps, makes a uniform, mellow seed bed, aerates the soil, covers to right depth and leaves the surface of the ground smooth and even. In form it differs from anything else in the harrow line. This serves a special purpose. The backward slope of coulters permits close cultivation to shrubs and trees without cutting or tearing up roots. This makes it a prime favorite with the orchardist as well as a tool of greatest excellence for the general farmer. The manufacturer, Duane H. Nash, of Millington, N. J., is the recipient of much hearty commendation upon it—all of it deserved. A fact worth mentioning in connection with Mr. Nash and the Acme is that he is not afraid to send it out on trial. If any of our readers feel the need of a harrow and want to be assured in advance that a better harrow is what they are getting, the Nash advertisement will point the way. Mention the P. F. when writing about the Acme.

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The delightful country of health-giving, dry air and inspiring scenery is the ideal place for a Summer Vacation. A country perfectly suited for rest, recreation or sport, abounding in good hotels and boarding places adapted to any man's means. Low round-trip and one-way rates. Only one night en route from Chicago. Chicago, Union Pacific and North-Western Line. Illustrated booklets on application to W. B. Kniskern, P. T. M. Chicago.

KOKOMO Steel Farm Fences. New diamond mesh, woven wire. Heavily galvanized. Guaranteed. Catalogue free. KOKOMO STEEL & WIRE CO., 21 North St., Kokomo, Ind.

FROST WIRE FENCE Best hard coiled spring steel wire used. Strongest fence known. Send for catalogue. Agents wanted. The Frost Wire Fence Co., Cleveland, O.

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Spring Cable WIRE FENCE with extra strength hard steel stays. Easily and quickly built by user. Ideal fence for all stock. Big price inducement. Full line wire fences and specialties with agents' propositions. Write for descriptive circular. WIRE SPECIALTY CO., Dept. Q, Akron, O.

PAGE If the Top Wire in your 58-inch stock fence will not bear the weight of 20 men without breaking, give us a trial order. PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH. OR GEORGE W. DORAN, EASTERN AGENT, ARDMORE, PA.

ROUND SILO. The "PHILADELPHIA." The only Perfect continuous open front Silo made. See Open Top Patent Roof. Ask for catalogue. E. F. SCHLICHTER, 321 Vine St., Philadelphia, Pa. Also made in the West by the DUPLEX MFG. CO., South Superior, Wisconsin

"SAVE-THE-HORSE" TRADE MARK SPAVIN CURE

POSITIVELY AND PERMANENTLY CURES Bone and Bog Spavin, Ringbone, (except low Ringbone) Curb, Thoroughpin, Splint, Capped Hock, Shoe Boil, Wind Puff, Weak and Sprained Tendons and all Lameness.

FROM A REPUTABLE AND NOTED TRAINER. Glenville Driving Park, Cleveland, Ohio. For the inclosed $5 please send me one more bottle of "Save-the Horse." IT IS DOING GREAT WORK. MILLARD F. SANDERS.

Hartland, Mich. Find inclosed money order for $5, for which send me another bottle of "Save-the-Horse" spavin cure, as it has done all you claim for it for me. With the bottle I bought of you I took off a curb, spavin and side bone on a three-year-old mare that other spavin cures refused to help in the least. I consider your spavin cure the best on the market. E. M. PARSHALL.

Edgewater, N. J. Inclosed check for $5, for which you will kindly send me by Wells-Fargo Express one bottle of "Save-the-Horse" soon as possible. The horse I have been treating with "Save-the-Horse" went sound and I sold him, and the last I heard from this horse he was still going sound and working every day, and I think he will stay sound. The bottle I am ordering now I will use on another horse that has a pair of spavins and a curb; he walks on his toes, but I think "Save-the-Horse" will bring him around so that he will walk all right. OTTO MEYER.

The fire iron is most uncertain; blistering is less effective than the fire iron, and both necessitate laying up the horse from four weeks to two months and longer. Arsenic, mercurial and poisonous compounds produce irreparable injury.

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Horses can be worked continuously.

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Contains no arsenic, corrosive sublimate or other form of mercury or any ingredient that can injure the horse.

$5 PER BOTTLE.

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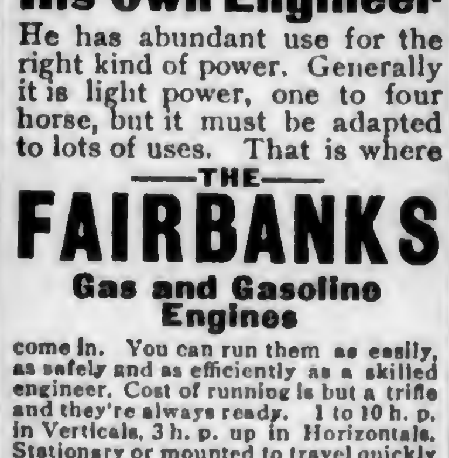
BROWN 16 to 35 Cents Per Rod. Heaviest, strongest, most durable fence made. All wires same large. We sell to Farmers at Wholesale Prices. Coiled Spring, Barb and Soft Galvanized Wire. WRITE FOR CATALOGUE. The Brown Fence & Wire Co., 22 Ossen St., Cleveland, O.



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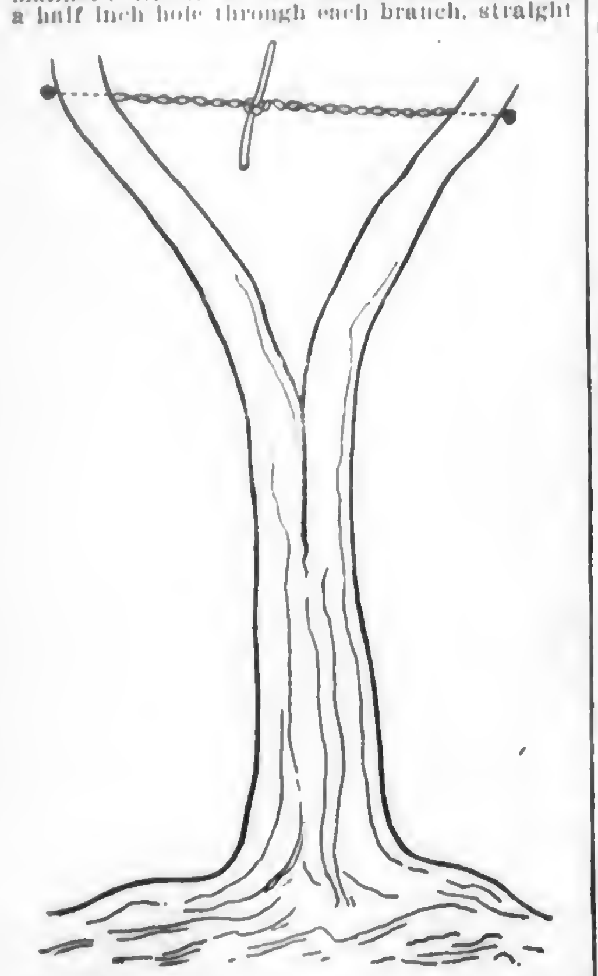
Mistakes, Failures and Successes.

In this department we publish the Mistakes, Failures and Successes of our subscribers. They are equaly instructive and necessary, pointing the way to success. Subscribers are cordially invited to send accounts of efforts they have made which resulted in failure, as well as those which proved successful. Give in a few words your experience of anything connected with farm or household work. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Only helpful communications of value to P. F. readers will be accepted. The head of the column will be considered the position of honor each week. Send all communications to Geo. T Pettit, Oneida, Kan.

Apple Trees That are Splitting.—An apple tree should never be permitted to grow up in two main branches from a fork, for it is almost sure to split and break down with its first heavy load of fruit. Or it will sometimes split down with the wind before it bears much fruit. I lost several valuable trees in this way before I learned how to save them. First I tried tying the two branches together by passing heavy wire around them and twisting securely. But this was a failure, for the wire cut into the tree causing it to rot and soon break off at the wire. I finally succeeded perfectly in the following manner: About 5 feet above the fork bore a half inch hole through each branch, straight through the two branches. Now take a piece of No. 9 galvanized wire a little more than twice as long as the distance from outside of one hole to outside of the other. Double wire and pass through one hole snug up to loop, put a bolt ½x3 inches into the loop, pass the double wire through the other hole, lay another bolt between the wires and twist them securely with pliers. In a few years the holes will grow completely shut so that no air or water can get in to decay the tree, and it will stand under the heaviest load of fruit that can crowd onto it. If you have a tree that is going this way, try this plan before the weight of leaves and fruit pulls the branches apart. It is a good plan to put a stick between the wires and twist it up tight. J. B. JOHNSTON.



New Wilmington, Pa.

Didn't Pan Out.—On the 29th of March last year there was published an advertisement of the Blood Globule Co., in which they offered to give anyone selling seven boxes of their blood globules a breakfast, dinner or tea set, prepaid. To introduce their great medicine they were going to set aside $25,000 to be spent in giving useful presents to those willing to help them. My husband told me to answer the ad., as he was going to try his luck. They sent the seven boxes and after they had received the money for same, they wrote, thanking him and stating that they had sent the order to the pottery and he would receive his dinner set soon. That was the last we heard from them. We later heard a young man say that his folks were deceived in the same manner. We laugh at my husband and ask him when his dinner set is coming. We think so much of the P. F. that we thought they would not advertise a fraud. [Certainly not knowingly.—Ed.]

Presque Isle, Me. MRS. IDA NASON.

My Frosted Rape.—Last season I purchased of a leading seedsman a quantity of rape seed and planted same, intending to save all that I grew the first year for seed. It did fairly well and by fall I had a nice patch of rape about knee high. Then to protect it from freezes I hauled fodder and piled it all over the patch. This proved to be the worst thing I could have done, for the leaves under the fodder became very tender and the first hard freeze killed it nearly all. Upon removing the fodder I found five or six stalks still living. So I consider my first experience with Dwarf Essex rape a dismal failure. W. O. GORRELL.

Muses Mill, Ky.

The Table Linen.—Most farmers' wives think it too much trouble to have white table linen on the table week days as it soils so easily. But if they will try a new way I think they will find the trouble well worth while, for with snowy linen, shining glassware and daintily arranged food the tired nerves are rested and you feel like eating. Buy about 8 yards of crash and make it up into napkins, doilies, mats for the edges of the table and a few oblong pieces to put under the meat dishes, making a 1-inch hem all around, hem-stitched if you like. When these are soiled take a bowl with warm water to cover them, and two or three spoonfuls of borax. Let soak over night; in the morning wash through two waters, rinse and iron. With these small pieces a tablecloth can be kept clean a week or two instead of using two or three cloths in one week.

Climax, N. C. STELLA FIELD.

Brood Coops. — First make two end pieces 24 inches long by 16 inches high at the eaves and 20 inches in the centre, as seen in Fig. 1. Then two oblong sides 30x16, Fig. 2. Nail together and on one side put a roof of thin boards, allowing a lap of one inch or more. Make a cover for the other side by nailing the boards to a couple of cleats. Fasten these at top with a couple of strips of leather. Fasten two cleats on inside of ends, as shown by dotted lines in Fig. 1. Make also a slat cover to put on these inside cleats to keep the chickens in when the hinged cover is open. This is shown in Fig. 3. Early in the season set the coop on a board floor. This coop is mink and rat proof and can be opened to let the sun shine in, but still confining the hen.

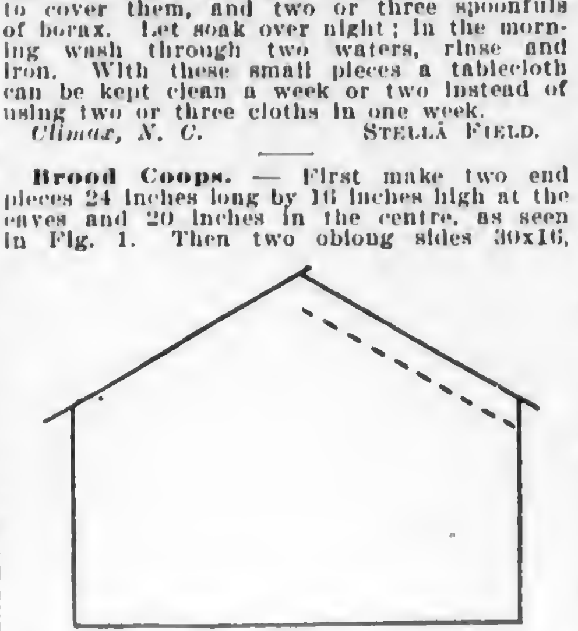


Fig. 1.

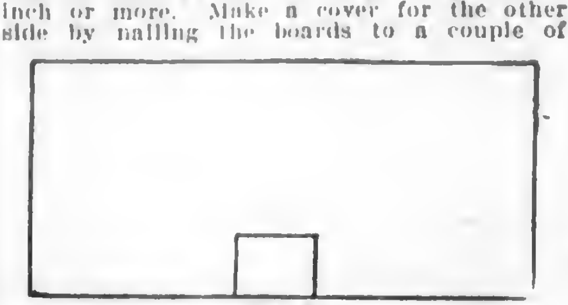


Fig. 2.

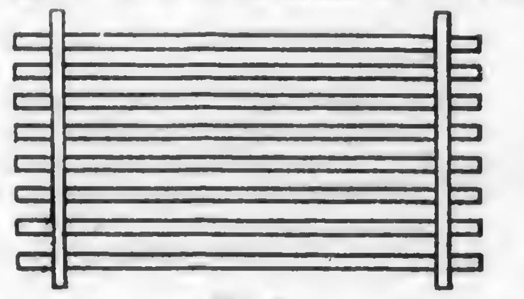


Fig. 3.

Albany, O. E. E. LEWIS.

Small Flocks Best.—We made the mistake the past season of keeping too many breeding ewes in one flock. We had about 55 head of ewes and we kept ewes and lambs all in one flock. In the latter part of the summer they began to decrease in flesh and several of the ewes and a few of the lambs died. When we weaned the lambs we divided the ewes into two flocks. After this we soon began to notice an improvement and have lost none since. If you have been having poor success with the sheep in large flocks, just try keeping them in flocks of not more than 35 (25 would be better) and notice the improvement. It is also advisable to change pasture occasionally. Finally do not overstock your farm. There is more profit in raising too few than too many.

Renrock, O. S. A. HAMMOND.

Filling the Milk Pail.—While my mistakes have been many, I have learned in the last few years that it is easy to have plenty of milk and butter when the pastures are dried up in the latter part of the summer. Plant plenty of sweet corn, use what is needed for the table and give the rest to the cows. How they enjoy it, and it takes them into winter quarters sleek and fat. A patch of sorghum also comes in nicely. Plant it along the pasture lot where you can cut and throw it over to the stock. Once tried it will never be abandoned. H. C. BOONE.

Wolf Creek, Ky.

A Soggy Under Crust.—It is a mistake to have a pie with a soggy, indigestible under crust. I have found a sure way to avoid this is to bake the under crust a minute, until glazed over, before putting in the filling; then the juices never soak through and the crust is flakey and nice. Mix a little flour with the fruit and the juice will not run when the pie is cut. After making fruit pie try one with apples and berries mixed. We like the combination pie better than almost any other. MRS. M. DANIELS.

Chicago, Ill.

Saving Seed Beans.—While we buy the most of our garden seeds, we have adopted a plan of saving seed beans that has proved quite successful. We select vines that are strong and well filled with nice beans, and none are picked from these vines except for seed. As a result we have as good or better beans after 8 years than we had at first. By selecting vines that first came into bearing we increased their earliness also.

Peggy, Mo. ELMER GREENE.

Curing Pork.—I will give you my way of curing pork. In the first place I always get it cut up as soon as possible after killing. The sooner it is salted the better, and if it freezes or gets too cold, the salt will not get through the meat as well. I dry-salt it first by rubbing it well with molasses, skin side as well as the other. Then rub in all the salt that will stick and let lie in this salt for two weeks. Now rub again, adding to the salt a liberal quantity of black pepper. Let stand two weeks more and it is ready to smoke. MRS. J. L. RITCHIE.

Northfield, O.

Heading off Potato Bugs.—Last summer I unexpectedly saved myself considerable time and labor in the following manner: When I planted my potatoes it so happened that I planted quite a large patch of spinach alongside. When the potato bugs came (the gray Colorado beetle) I noticed they attacked the spinach first, and by keeping it well covered with Paris green they were easily destroyed without having to go over the entire field. Others had their beet and potato tops entirely destroyed. F. T. KELSEY.

Moorhead, Mont.

◆

The Fence Problem.—The life, beauty and utility of a fence all depend upon elasticity—that allows for changes in temperature—that is self-regulating. Farmers and everybody interested in the fence question, should send to the Carter Wire Fence Machine Co., Box 206, Mt. Sterling, Ohio, for their illustrated catalogue, which will be mailed free to any address. This interesting booklet tells all about wire fences, how to build them, what kind of wire to use, and how they can be made tight. It also describes the Carter Wire Fence Machine, with which a farmer can weave a wire fence right in the field. Be sure to mention the P. F. when writing for their catalogue.

A Growing Business.—The great volume to which the trade in Champion Harvesting machines has grown can in a measure be appreciated by knowing that there are now sixty branch houses in the United States, located at the principal trade centres, and each devoted exclusively to the conduct of the business of the Champion line. Each branch house is in charge of a general agent, who has under him one or more stenographers, bookkeepers, and warehouse men, as well as a number of travelling men. At each branch are carried stocks of machines and a full stock of repair parts, while agents convenient to every locality have on hand such repair parts as are likely to be needed. Mention the P. F. when writing.

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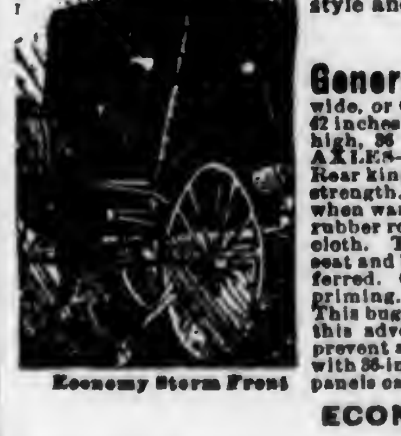

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JUNE 7th, 1903

after which date the buggy and outfit will cost you *$65.25*. **Remember** you can have your $5 back if after you receive and read the full description of this buggy you decide it is not what you want. And, again, after you have received the buggy **Try It 10 Days Free** and *then* if you decide for any reason you want your money back you can have it all on returning the buggy.

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$5 sent before that date insures a reservation of one outfit for you. Read fully the description given here. *The Economy Storm Front* the finest thing ever invented for rough weather. *The Economy Dust Hood* protects buggy top when down, adds style and neat appearance to vehicle.

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CAUTION: We are manufacturers, making only Buggies and Harness. Do not confuse us with general mail order houses.

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Any reasonable changes made in the finish without extra charge.

Economy Storm Front

Economy Dust Hood.

ECONOMY BUGGY CO. Box A55 CINCINNATI, OHIO.

OUR PREMIUM DEPARTMENT.

WE start a new department of the P. F. this week, under the above heading. In this new department will be found from week to week all our premium offers. It will contain full information of them, and will be changed so as to be fresh and up-to-date. You will always find things of interest on this page, that will help you to increase the circulation of your favorite paper and receive good pay therefor.

HOT weather suggests oil stoves. And oil stoves suggest ideal conditions in the kitchen during hot weather. We are offering only the Wickless this season, as they have now been perfected so as to be far superior to the wick stoves. Do you want one of them absolutely free? We send the one illustrated, including oven, and freight paid east of the Rocky Mountains, for a club of 50 yearly subscribers to the P. F. at 50 cents each.

WE are also giving away sewing machines! The two illustrated on this page are our standards. They give satisfaction; if they didn't we could not afford to guarantee your money back if not as represented. One of them ought to be in every P. F. home where a sewing machine is a stranger. A club of 60 yearly subscribers to the P. F. at 50 cents each will bring your choice of either machine to your nearest freight depot, freight paid to any point east of the Rocky Mountains.

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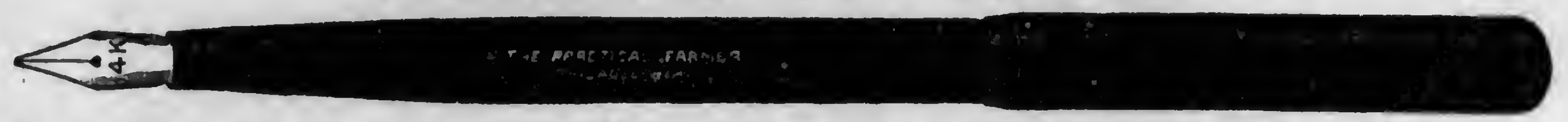

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The ink does not dry in the pen; it can be used one day, laid aside for a week, and is then ready for business instantly; no soiling of the fingers; best gold pen and point; hard rubber holder; fully guaranteed in every respect; money back if not satisfactory. Plain or Stub point, as desired.

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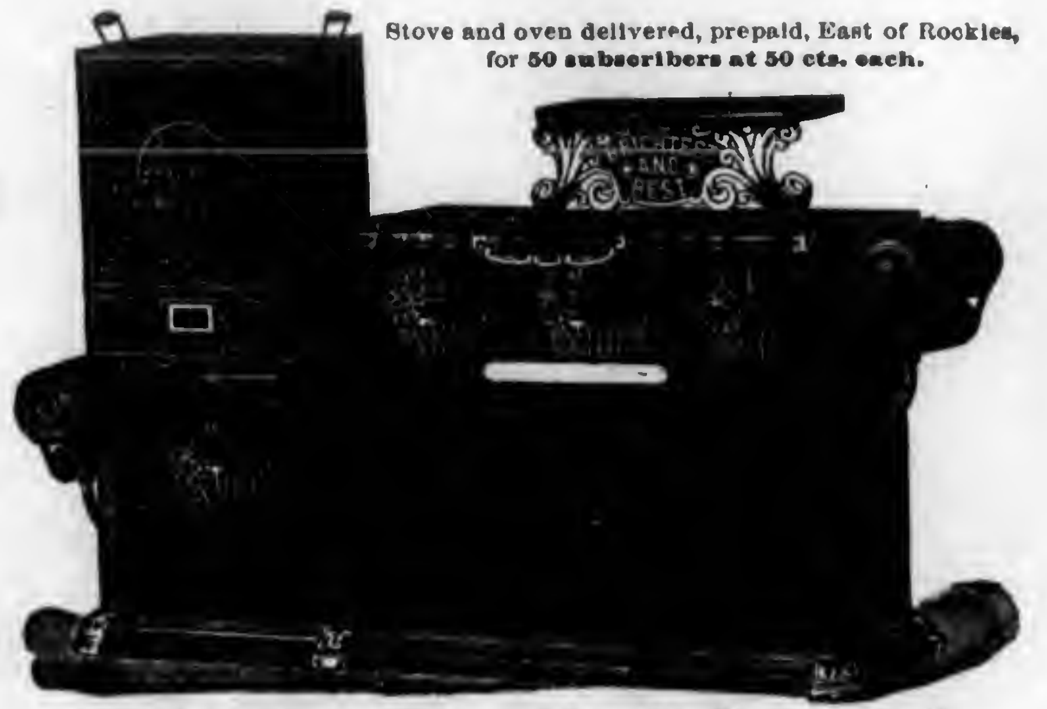

Save Money and Keep the Kitchen Cool by Using

WICKLESS A Practical Farmer Brightest and Best, Blue-Flame OIL STOVE

The illustration shows the popular high cabinet style with step. Those who prefer this stove without the step will be suited by No. 453 and No. 452. Where a low cabinet stove is wanted, No. 353 and No. 352, specially designed for limited space, without step or shelf, and only 15 inches high, will give the best satisfaction possible.
Prices include prepaid freight charges East of Rockies. West, add $2 for extra freight charges.
For further information write for our illustrated price list of stoves and ovens.

GIVES MORE SATISFACTION THAN ANY OTHER STOVE.

The stove recommended by Mr. Terry.

Stove and oven delivered, prepaid, East of Rockies, for 50 subscribers at 50 cts. each.

OIL STOVES SAVE HEALTH WORK TEMPER MONEY

Satisfaction always guaranteed

The above illustrates Wickless Oil Stove No. 465. Price, $13.25.

Nos. 453 and 452 are same style as Nos. 465 and 464, but have no step burner. Height, top and dimensions the same.
Stoves handsomely finished in black enamel, with trimmings heavily nickeled.

No. 465. Height, 28 inches; top, 18¼x35 inches; shelf, 7x22 inches; step, 16x16 inches; weight, crated, 100 pounds (see cut). **Price, $13.25; with oven, $16.00.**
No. 464. **Three burners.** Height, 28 inches; top, 18x25 inches; shelf, 7x22 inches; step, 16x16 inches; weight, crated, 85 lbs. **Price, $11.75; with oven, $14.50.**
No. 453. **Three burners.** Height, 28 inches; top, 18¼x35 inches; shelf, 7x22 inches; Weight, crated, 75 pounds. **Price, $10.75.**
No. 452. **Two burners.** Height, 28 inches; top, 18¼x26 inches; shelf, 7x22 inches. Weight, crated, 60 pounds. **Price, $9.00.**

Cabinet style (like 465) without step and shelf but only 15 inches high.
No. 353. **Three burners.** Weight, crated, 65 pounds. **Price, $9.00.**
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$50.00 Sewing Machine for $19.25

Do you own one? If not, here is a bargain in sewing machines. None give more satisfaction than the "Practical Farmer."

P. F. HIGH ARM SEWING MACHINE.

High Arm, High Grade, Ball Bearing Noiseless, Self-Threading.

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Freight prepaid east of Rocky Mountains.

Constructed of the best material in use. Every bearing being of steel or case-hardened.
No Vibration.—This machine does not vibrate. Its natural movement is nicely balanced, the motion is easy and quiet.
Lock-Stitch. — It is a lock-stitch shuttle machine.
Speedy, Light, Quiet.—It is as speedy, light and quiet running as any shuttle machine manufactured.
Double Feed.—Positive Four Motion. —The double feed possesses advantages over all others.
The Needle Bar.—A self-lubricating needle bar, which is always kept clean, well oiled and the oil cannot drop on the work and soil.
The Self-Threading Open-End Cylinder Shuttle is entirely new; is absolutely self-threading—not a hole to thread through.
The Loose Pulley for winding the bobbins without running the machine is constructed to admit of instantaneous stoppage and starting of the machine without stopping the treadle movement.
Attachments.—A complete set of latest style presser bar attachments goes with each machine.

A Written Warranty for Ten Years Goes With Each Machine.

P. F. Drop Cabinet Sewing Machine.

Each machine is guaranteed for 20 years; thoroughly inspected and sewed with before leaving the factory. Instruction book accompanying each machine explains everything.

Woodwork.—The woodwork is of the latest golden oak, highly polished. Drawers ornamented with carved woodwork.
The Arm and Bed Plate castings are of extra heavy weight, that either light or heavy fabrics may be used.
The Face Plate, hand wheel, shuttle carrier and stitch regulator are finely nickel plated and polished.

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Stitch Regulator.—The stich regulator is in front of the arm post, and automatic bobbin winder is so arranged that it can be turned down flat and even with the bed plate, allowing free access to the stitch regulator thumb screw.
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Presser Bar. — The latest style presser bar attachments, which will produce the finest of fancy sewing.
The Table.—The machine will prove a handsome ornament to any room. The table is decorated with a 20-inch tape measure in marquetry design.

THE FARMER CO., Market & 18th Streets, Philadelphia, Pa.

AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

Farmers Moving to Town.—Boys Going—Land Cheap.—Labor High.—The Remedy.—Notes from our Section.

The following is from H. McC., Moscow, N. Y. "How strange the word landlord sounds in free America. But it is here, and here to stay. I can count 30 farms around here that are rented out on half shares. The owners have moved into the villages. And owners who still work their land tell me they intend to move into town as soon as they can. Even the young boys talk about leaving the farm as soon as they get old enough to go out for themselves. What is the trouble? Many farms are for sale. Land is cheap, hardly bringing more than the improvements are worth. Hired men ask $25 to $30 per month and often want a horse kept in addition. Girls expect $12 per month and part of the afternoon to themselves." Well, it is easy to see what the trouble with the boys and the young men is. When the owners of farms are leaving and going to town to live as fast as they can, when the boys are brought up in an atmosphere of this kind, when all they hear is that farming does not pay, that it is a life of drudgery to be got away from as soon as possible, what more can you expect from the boys? Their impressions are largely formed from what they hear at home from day to day. To improve matters it would be well to begin with the owners of farms. Let them prize the advantages of farm life as they should, and manage so as to make it as profitable as they might, and they would not want to move into town. Boys brought up on a farm of this kind will be pretty likely to follow in the footsteps of their fathers. Boys are not fools. They naturally want to desert a sinking ship. Even a rat knows enough for that. A prosperous business, where life is not over hard, will attract them. In much of the East the flush of virgin fertility is gone. Men who continue to farm now as they could once, selling off crops, wasting fertility, buying it all back in fertilizers, etc., etc., cannot longer make farming a profitable business. As a result farms are cheap. And still there are no farms in the country more desirable today than the better class of these Eastern farms, at the price they are selling for. I was talking lately with a far-seeing Western man, who has many acres of fertile land. The boom is on. He can sell at a big figure, largely because one has only to scratch the land over to get a crop. Anyone can do this. Brains seem to be almost at a discount. The land is called rich. This man is thinking seriously of selling his farm and buying one of these cheap Eastern homes, where one pays for good buildings and gets the land thrown in, where there are better advantages in several lines and higher prices for products. After close inspection he told me he could soon, with purchased feed, cement floors, clover, corn, etc., do away with purchased fertilizers and make the land more productive than his Western fields. So he could, surely, within 8 or 10 years, and have a good home and make the farm pay at the same time.

The remedy then is to awaken an interest in more business-like farming. Eastern men who have depended on fertilizers have had a hard time for years back, since they have come in competition with the vast acres of fertile land in the West. Their only salvation lies in better farming (excepting the keeping of summer boarders), in using the best knowledge of the day more, in getting fertility from the air for nothing, by growing clover and cow peas, for example, in unlocking more of the mineral matter that is in their soil, in saving fertility for their land all they can.

But let me tell you frankly, my Eastern brothers, for your consolation, that the cream of the fertility has largely been taken out of Western farms. As a rule they are not producing extraordinary crops, often only very moderate ones. It is the ease with which large areas can be gone over that keeps up the price, or makes it advance, rather than because the land is so much more fertile than that further East. As farms are reduced in size, as they will be in time, and better methods have to be employed, as they must be soon, then the Eastern farmer who is doing his best will not be troubled by Western competition. Let these ideas be generally followed out and soon Eastern farms will be worth more on the market. It is these ideas that the P. F. is earnestly trying to instill from week to week.

The country is prosperous, business is booming in all lines, and, of course, this makes labor high. Some farmers who are not making very much feel this seriously. And still, it is probably all for the best for farmers as a class and in the long run. At any rate it is useless to try to hold the price of labor down, useless to waste any time grumbling about it. And the most unwise thing of all usually is to hire poor, cheap hands, because good ones ask so much. No, my friends, I believe the way out is to hire good hands and pay them liberally, and then study to make their labor more effective, to make it bring us more. I do not mean that we should work more hours in a day, or overwork the men. No, here is my idea: See that a man has a good plow, properly set and with a sharp point, and a strong, good-walking team in front of it, and thus get 50 per cent. more done in a day, and still no harder for the man. See that he uses a weeder when it is just dry enough after a rain, or before a weed starts, so he does much more good in a day. And so on through the long list of things that pay better when done well and on time. Encourage the men and boys to work faithfully and vigorously for a reasonable number of hours and then quit and have a good time. Do away with some of the everlasting chores and do more in regular lines that pay better. With a little business management put into farming it need not be a life of drudgery and poorly paid toil, to be escaped from at the first possible moment. Make the farm pay first, then as you can improve it, making it your home, with no idea of any other in this world. A farm home can be made a beautiful, healthful place. Wealthy city men almost invariably have in mind to spend their last days on a farm of their own. Some farmers want to go to town to live and have nothing to do but enjoy the poorer health that almost invariably comes to the active man when he changes to a life of idleness. It is to be hoped for the good of the people and of the republic that we shall in the future know less and less of landlords and tenants. To put agriculture on a high plane we want the owners of the land occupying their farms and taking pride in them.

In the section of Ohio where the writer lives, farmers have not felt the competition of the West as much as Eastern ones have. There is still more of the available fertility left in the soil. Fertilizers, although used some, have not become such a large and costly factor. Our farmers generally are prospering fairly where they have a reasonable chance. Land does not sell as low as it used to. Last year a fine new house and a mammoth bank barn were built on the farm west of ours. This spring our next neighbors east are grading and getting ready to put up another big bank barn. Another neighbor within a mile is doing the same thing. True the money may not all come directly from farming, but farmers do not spend money where they do not expect it to pay. Robert pays his man $30 a month, but he is a good one, and milk is 2 cents a gallon higher than last summer. His 4 two-year-old heifers (registered sire) are giving over 30 pounds of milk a day per head on the average. I do not hear Robert complaining. I would like to tell you how much he put in the savings bank last year, but it would sound too much like boasting. His father lives on the farm and intends to spend hundreds of dollars this year in making the home still more pleasant and comfortable. He enjoys hearing city people when they drive by saying, "oh I would like to live there." Well may they say so. No dust, no noise, no rush, pure air, pure water, plenty of sunshine, as well as shade, great wide verandas, a velvety lawn about barn as well as house—we are satisfied. The season started out to be early, but we have had much cool weather since. Robert's cows were turned out to pasture day times April 12th. The general outlook for wheat is good, although severe freezes hurt it some. Oats were well put in. There are plenty of good farmers in this section. There are parts of Ohio more suitable for corn, but if there are not good crops of wheat, oats and grass here one need not look for them anywhere in our State.

Health Hints.—Better Health and More Comfort from Fresh Air.—The perfect way of heating and ventilating with a warm air furnace is as follows: Have a cold air room in the cellar, with a window, preferably on the west side, large enough to furnish abundant air and that can be closed more or less to regulate the supply. Have also a cold air register in the floor above, large enough to furnish a full supply for the furnace of itself. Put a cold air pit under the furnace and a duct from it leading under the cellar floor to the cold air rooms, unless water prevents. If it does, take cold air from the room in a box on the floor. Duct and pit should be built of bricks. In ordinary weather take all cold air from out of doors. If you leave home for a day take all cold air from inside, and the same perhaps during extreme cold weather. If the family is small probably part of air can be taken from indoors during much of winter weather, say when it is below freezing. The indoor and out of door cold air will mix nicely in the cold air room, if you regulate the outside window properly. This arrangement will cost a little more than the common way, but it makes one master of the situation completely. See that the furnace is large enough to warm the house in any weather without being more than moderately heated. Now you can get pure air in your home; but you must arrange to take out about as much air as the furnace is sending in, and to take it from the floor. One fire place, or large grate, near the centre of the house, will do it and will make your home more cheerful. Personally, I would not have a furnace without a grate. I want to see the fire and feel the radiated heat. But a flue in your chimney, by the side of your furnace flue, with registers at the floor in a couple of central rooms, will take the air out all right. The heat from furnace flue will cause the air to rise in the other one. By taking the air out at the floor you remove the coldest air and the foulest, which means both economy and better sanitary conditions. There you have it. Get all pipes, registers, etc., properly proportioned and it will work to a charm, and you can have the out of door air of a balmy, perfect June day in your home all winter long. A number of letters have been received already asking about hot water heating. As a matter of heating only, hot water and steam are all right; but they do not ventilate at all. They bring no fresh air into a house They heat the same air over and over, and you breath it over and over, just the same as a furnace that takes all the cold air from the floor above. A fire place, or grate, will help where steam or hot water heating is in use. But with an ordinary grate the fresh air to supply it will be drawn in around doors and windows, and in cold weather the draught will be unpleasant. But there is a perfect remedy for this. Get a Jackson ventilating grate. After investigating we have ordered one. They give about 3 times as much heat from a given amount of fuel as common grates, and draw in as much out of door air as any and warm it as it is coming in. One of them is a warm air furnace, taking its air from out of doors, sitting right in your fire place, and giving you a perfect open grate and radiated heat besides. I believe the above is not exaggerated in the least. So much for arranging for pure air next winter. How about this summer? I am afraid many of you will not have air as pure as out of doors in your homes between now and winter, particularly in your bed rooms. Let me tell our several thousand new readers how we have it. Our bed room windows are 2½x6 feet. There are 4 in the room where I sleep. Until flies come I pull down each upper sash half way and raise each lower one as much. There are outside blinds that are closed to keep out rain, or when the wind blows too hard. This gives us fresh air about the same as under a tree. When it gets warmer I take the sash out of one east, one south and one west window, and put in screens the entire size of openings. The other window has a half sized screen. Then in the hall we have a large trap door, balanced by a weight, up into the garret. In the garret there are east, west and south windows, with screens to fit. In summer these sash are removed also. Other bed room windows are fixed the same as mine. Now what is the result in the hottest weather? By opening all blinds above, trap door, and floors down through the house, and all outside doors below, along about 5 or 6 o'clock at night, the rooms above at bed time are practically the same temperature as those below and all about as cool as out on a porch. The draught up into the garret does it, with those large openings, 2½x6 feet, letting in fresh air. We have a slate roof and garret becomes very hot when the sun shines. Then we keep the trap door shut, and the garret is floored over so heat does not readily come down. We used to almost roast upstairs hot nights. The hottest night last summer the temperature was but one degree higher upstairs than down. And we had the fresh air of a tent, of camping out, all summer, and the luxury of a good room too. Three or four times, during a driving storm, we had to take out some screens and put in the sash. As we have it arranged this can be done in less than a minute. The closed slats of the blinds will keep out ordinary rain. This plan will help many a bed room that is short of windows, doubling the amount of air one can get. With both sash out warm air goes out at the top and cool comes in at the bottom, freely. If you cannot get enough this way put in another window; and do the same for kitchen and living rooms. Fresh air is cheap in summer. Get it and be more comfortable and live longer.

T. B. Terry.

Best Results in feeding for milk are obtained by adding some

BUFFALO Gluten Feed

to balance the ration.

Sample and booklet "Feed Your Stock for Best Results." Sent free. Write to-day.

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THE DRAINAGE OF FARMING LANDS
Valuable free book mailed to any one interested. Address JOHN H. JACKSON, ALBANY, N. Y.

Adjustable Pivot Axle BUCKEYE CULTIVATORS.
Made to work on hillsides or in crooked corn.
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THE KEYSTONE TO SUCCESSFUL FARMING

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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

How to Prevent Injury to Corn When a Large Growth of Clover is Turned in.

Frank Robinson, Sunman, Ind., wrote the following, May 4th: "As clover has lived through the second winter in this section, there will be thousands of green fields plowed for corn this season. I intend to break a clover sod for corn, and the green growth will be so heavy that I am afraid of its souring the ground and injuring the corn crop. I once had an almost entire failure from this cause, as I thought. Can I use any particular brand of fertilizer that will prevent this trouble?" As is often the case, this letter comes too late for a reply to be published in time to be particularly helpful this year. However, a few words coming just as the corn is not making a satisfactory growth, may be read with interest and remembered. No commercial fertilizer, unless it has lime in it, will change the acidity of the soil, if this condition really exists. Nitrogen, phosphoric acid and potash cannot do this. A light dressing of lime, evenly spread, will do it; 15 or 20 bushels per acre, measured in the lump, will be sufficient and is as much as it is wise to apply at one time. It is best to put this on right after plowing, so it can be thoroughly worked in while the land is being fitted for the crop. A dressing of wood ashes might correct the sourness, but it would not be the potash in the ashes that did the business, but the lime, which is present in considerable quantity. But now, where clover is plowed under in season for planting corn on time, and where there is a thick growth of clover, I take little stock in the idea that the land will be made sour enough to injure the yield of corn, as a rule. The fact that the clover has survived the second winter, and has started out to make another large crop, goes to show that the land has no material excess of acid. If it had clover would not thrive so well. Again, this clover will be plowed under most too early in the season to cause any great degree of acidity by its decay in the soil. It may be said, however, that on sandy land there will be more danger of trouble than on clay. Where I live, in Northern Ohio, clover sod ought to be plowed for corn not later than the 15th or 20th of May, as a rule, and I should never hesitate about turning under any growth that might be present at that time. In fact, a clover sod plowed at that time and properly prepared is a grand foundation for a corn crop. The only trouble is that if the season is very dry it will be hard plowing and working down the land, as one cannot wait for rain at that late day But now comes what I believe to be the most important point in this connection. It is properly working down this sod after plowing. It should be harrowed down, rolled and harrowed, if at all dry, almost directly after the plow. Pack it, if dry, so there are no air-spaces in the lower part of the turned furrows, and of course there will not be any then in the upper part. Work it deeply and very thoroughly, and do it at once after plowing. Partial failure often comes, if there is a lack of rain, from leaving the furrows to dry out after plowing, and then not working the land down so it is fine and firm clear through You see, the effect of turning under a good growth of green stuff, and particularly when the ground is dry, is to hold the furrows up and apart some.

This condition must be corrected by timely and thorough working of the soil, unless wet weather is to follow, if one wants a maximum crop. I believe far more failures, or poor crops, have come from lack of a proper handling of the soil, than from acidity, under conditions named above. To a certain extent the soil can be packed and fitted now, after the crop is planted and up, by thorough cultivation. The tramping of the horses, when it is dry, and the action of the teeth of the cultivator, which should go deeply for the first week or two, will tend to pack loose places in the soil.

Seeding to Clover Alone on Corn Stubble.—C. R. writes that the matter of sowing clover seed alone, on corn stubble, in the spring, as told about in May 2nd issue, interests him greatly. And he asks how Mr. Wade mows the clover when all the corn stubble is still on the ground. Not keeping friend Wade's address, I cannot get a reply from him. I know something of the ways, however, that are practiced in various sections. First, it makes a great difference how rich the land is and how favorable the climate for a great growth of corn stalks. In much of the eastern and northern part of our corn belt the stalks do not get very large. And again, the feed is so valuable that they are cut close to the ground. I have seen thousands of acres where the stubble was cut so low that a mower knife would hardly touch it if it was still standing. In fact, much corn now is cut with a corn harvester, which mows it off. This is more particularly true where corn is cut for the silo. On such stubble one can fit the land for seeding quite well, if level culture had been practiced in the care of the corn the year before. I should presume that the conditions on Mr. Wade's farm in Michigan are about the above mentioned kind. But now, further South and West, in the great corn sections, where the land is fertile and the corn grows very large and tall, we have a very different condition. And usually they grow so much corn that they prefer to leave part of the stalks, if not all, on the land. Hence the corn is cut high up. One often sees great, coarse stubble standing knee high. I presume "C. R." lives where some such condition exists. If so, the matter of seeding in corn stubble is not so practicable for him, unless he can make some changes. It is difficult to fit such a corn stubble for seeding and mowing. It can be done after a fashion, but it does not make desirable mowing land. If one cuts off the corn stalks they are just the same to rake up in the hay. It seems to me that in such a case the best plan would be either to cut the stalks close down, when harvesting the corn, and learn to save all the feeding value of the corn plant, or grow the clover for pasturing or plowing under, if one desires to seed in corn stubble. As a rule, where land is somewhat lacking in fertility, and it is difficult to get a good stand of clover in a dry season, corn will not grow so large, but what seeding can be done quite well on the stubble. It was for such cases that the above mentioned article was written. If any friends have seeded to clover alone in corn stubble, where it was heavy and cut about knee high, and used the field for mowing, will they kindly write the P. F. how they managed.

Cellars Without Drains.—R. H. Johnson, Parsons, Kan., is digging a cellar. The subsoil is full of large stones, making the digging of a drain a "fearful job." He would like to cement the cellar so as to keep water out. The earth is full of water near the surface in a wet time. He is told he cannot keep water out without a drain. He has stone and can readily obtain either Portland or common cement. Our friend also wishes to build a cistern under the same conditions. Well, I have had cisterns built from 10 to 16 feet deep, laying a 4-inch brick wall and cementing both outside of wall and inside with a coat less than one inch thick. And common cement was used, costing only about $1 a barrel. This readily keeps surface water out of rain water in the cistern. The bottoms of cisterns well laid with bricks, cemented both sides, the same as the side walls. It would be useless to tell me that I could not build a cellar wall and bottom so as to keep water out in the same way. A cellar would not be more than 6 feet in the ground. The pressure of water to get in would not be nearly so great as in the case of a cistern 16 feet deep. Stones can be used as well as bricks, only they must not come through the cement mortar, outside or in. You should have about an inch thick of good mortar over all of them, on both sides and at the bottom. That is all. The stones hold the wall, or bottom, in place; the cement mortar keeps water from going through either way. The stones can be laid up with common cement except where frost comes, but Portland should be used for facing. Common cement will let water through for a time, while Portland hardens quicker. The use of Portland might save you from having to pump out a cellar or cistern full of water. But now, if a half-way job is done there will be failure. That is why neighbors tell you that water cannot be kept out without a drain. I know of a case where a stone wall was carelessly laid in lime mortar. Then a thin coat of cement mortar was put on the inside of wall and about one and a half inches of mortar on the bottom, right on the ground. This worked nicely in dry weather, but when the ground was full of water in the spring it would ooze through the cement mortar, and at last the cellar floor would burst up and fill with water. It was repaired from time to time, but only to break up again under the same conditions. Then the owner dug a long, expensive drain. Had the wall and bottom been put in originally with the same care that is used here in building a cistern, there would have never been any trouble. I have in mind also a cistern at the barn on a certain farm, where the water is discolored by the leachings from the stable. The owner says one cannot keep liquid manure from getting into a cistern. He thus advertises his ignorance, and carelessness of fertility and somebody's poor workmanship when the cistern was built.

Health Hints.—Healthful Homes.—Avoid Dampness.—Geo. M. Sternberg, M. D., LL. D., Surgeon-General U. S. A., says, in substance in Youth's Companion, that the death rate in the U. S. in 1900 was 10 per cent. less than in 1890. The average duration of life is being lengthened, steadily, but as a matter of fact this is largely due to reduced mortality in cities, notwithstanding the advantages of pure country air and the chances there for more healthful homes. In the city there is a board of health and competent, paid officials to see to it that houses are properly built, that the sewers are in order, that garbage is removed, that the water is pure, or boiled if it is not, etc. On the other hand, in the country, a farmer is left to his own devices and is often ignorant of the dangers that surround him. There is far too much truth in this. Not that the farmer is any more ignorant of the laws of health than the people in the city are, but that city people are slowly, but surely, getting better and better sanitary conditions, while the farmer keeps on about as he always has. There is no competent paid official to see to it that his surroundings are healthful. He has not time to study into such matters for himself. No more would the city man do it. The collection of people together in cities enables them to have their welfare watched over by a board of health and paid officers. As yet this is not practicable for farmers. But it is a shame to not have our death rate diminishing as fast as that of our city friends. It is a shame that consumption, diphtheria, typhoid and malarial fevers should bring so many people to an untimely end in farm homes. There is no dodging the fact that they do, and that with our present knowledge all of these diseases are preventable. Having made almost a life study of these matters, it will be a pleasure to the writer to discuss them in a plain, simple way for the good of our many readers. He will avoid all fine-spun theories and doubtful points, and just give you settled facts that are surely correct, and which should be attended to in and around every home.

An undue amount of dampness in the house, in the cellar or under the house, and in the ground around the home is not healthful. This came to my mind when writing the above advice about building a cellar without a drain. It can be done. Perhaps it may be all right to do it, under some circumstances. The earth about a home should always be well drained, however. Water should not stand within three feet or more of the surface, any more on home grounds than where one wants to raise good crops. With a clay subsoil about the home I would spend considerable money in putting in cellar and other drains that would cause the land to dry off quickly after a rain; that would make the water go down and flow away instead of having to evaporate from the surface. I did just this, years ago. See that the home grounds are dry, my good friends, not damp. Then see that the cellar is always dry, and that there are windows on opposite sides if possible so air can pass through freely. Danger lurks in many a dark, damp cellar. There should also be openings for air to pass under houses, or parts of houses, where there is no cellar beneath, the same as where there is a cellar. The floors should be up at least 2 feet from the ground, also. The ground on which our home stands is underdrained by nature some 12 feet deep, so it is always dry. That was one of the first things I looked at when thinking of buying the place. Had it not been thus I should have looked for a chance for deep tile drainage. The cellar has windows on three sides, with screens in them, and the windows are open except when there is danger of freezing. The walls are glazed hollow bricks and the floor is cemented. The air is dry enough so I would not fear to sleep there, and pure enough, too. The kitchen has no cellar beneath, but it is up two feet and has openings on each side to let air through. All these things were carefully down on purpose.

T. B. Terry

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Tile Drainage.

BURTON SHINGLETON.

I received a letter from G. L. Anderson, Elder, Ga., asking some questions on a very important subject, tile drainage, which should be of interest to P. F. readers. The questions are :"I have some creek or flat meadow land which has some springy, wet spots in it. Have good fall that I would like to know how to drain. I can, by cutting ditch every 12 or 15 feet apart, left open or fill in two and a half feet with rock and then put on a layer of pine brush and fill out with dirt to surface, but how about tile, round pipe, as many use, how does water get into pipe or tile and will it make hole or excavation near pipe washed out by water entering pipe? If so I would not like it, for horses would break in, etc. If you would give us a letter on this subject we would be glad."

I take it from Mr. Anderson's letter that he has had no experience in tile drainage. Therefore I will give what I know on the subject in as simple a way as I can. I think he would have no difficulty in draining his land, and think it would be the best investment he ever made. The greatest difficulty we have is our land is so level we have not fall enough. I will first give some reasons for tile drainage, copied from one of the bulletins on the subject. The surface soil is retained entire, instead of the finest and most fertile parts being carried off with every considerable rainfall. Any manure or other fertilizer deposited upon the surface is carried into it with the water as it percolates downward from the surface, and so becomes thoroughly incorporated with the soil. Rainwater itself is a valuble fertilizer and solvent, enriching the soil by dissolving and preparing crude soil material for the nutrition of plant life. The soil is prepared and is at all times in readiness during the growing season for the growth of plants, such growth not being hindered by stagnant water or saturated soil. The frost goes out earlier in the spring, so that the planting season opens one or two weeks earlier than in the case of undrained soils. In the case of stiff clays, the soil is made more porous, open and friable, and roots penetrate deeper than they do into undrained soils. The effects of drought are diminished, as has been found by experience, owing to the enlarged and deepened soil bed and to the perfect condition of the surface for preventing undue evaporation of moisture. It aids in making new soil out of the unprepared elements, since it permits a freer entrance of frost, air and atmospheric heat, which disintegrate soil material hitherto unavailable for use of plants. Water enters the tiles through the openings left between the ends of tiles. The ends of tiles should be placed so close together, in order to prevent the soil from entering, yet not so close as to prevent the entrance of water. Mr. Anderson need not be afraid of water making holes or excavations near tile. I would lay the tile drains 12 or 15 feet apart the same as though he had open ditches. On most soils 3 rods is close enough. The proper depth to lay the drains depends on the character of soil, usually about 3 feet. Orchards and fruit gardens 4 feet. The proper size depends on the amount of water they are wanted to carry off; we use 3-inch on our soil. The tools that we use for tiling are a line, plow, shovel and spade, a ditching spade, with blade 18 or 20 inches long, and a grading scoop of the "pull" pattern. First get a good surveyor to survey out the land you want drained and then stretch a line so as to have the drain straight, which is a very important point; then we take a plow and team and drive the horses, one on each side of the line, and run the plow with the line, then plow back, letting one horse walk in furrow, leaving two narrow furrows unplowed between and then split those two, throwing one each way, plowing the last furrow as deep as possible (this is for ground without sod). We then set our grade stakes, which consist of three stakes with a narrow board nailed across the top of each set in the ground over the drain, equi-distant apart, to sight by; tack a piece of white pasteboard in the centre of each board to sight by. Then cut a small stick, the length from top of grade-board to bottom of drain. Then dig out the drain and stand the stick in the drain and sight from top of stick with the top of grade-boards. The most important point is to have the bottom of drain level; lay the tile and if the ground is sandy, cover over with straw, sawdust or clay and fill in with plow and team.

Davis, Mich.

[Underdrains are not intended, as some imagine, merely to carry off quickly the rainfall, but to carry off the water from permanent springs and to lower the general water table in the soil, and thus allow of a more rapid absorption of the rainfall. The further apart the drains are the deeper they should go in order to lower the water table between. Your correspondent need not fear about the water getting into the tiles. It will get there not only at the joints, which should be made as close as possible, but by absorption through the whole body of the tile. We always place a strip of heavy paper over the joints to prevent the earth getting in until settled, after which there is no further danger. The important point in laying the tiles is to have the grade perfectly uniform. Any sinks or elevations in the bottom of the ditch will give trouble in choking the tiles, and if soft places are crossed it will be necessary to place a plank under the tiles till hard bottom is reached. Sole tile, with an egg-shaped cross section are preferred by many, but we have had perfect success with the round tiles where large enough for the needs of the spot. Drains made of four and breaking joints on opposite sides narrow planks nailed in shape of a pipe will make as good a drain as tiles for twenty years or more.—Ed.]

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Rotation for Florida.—E. L. Eames, Pomona, Fla.—"How would this rotation do on rolling, sandy soil? Cow peas sown in March or April and cut in June and July and followed by cow peas cut for hay and followed by cabbages for the early spring market, and to be followed by cassava to be hogged down in time for peas again. Could substitute corn for the first crop of peas or crab grass for the second or onions for cabbages." If the object is to increase the humus content of the soil and to improve its productiveness this course would answer if you put back on the soil in manure the results of feeding the hay, and at the same time treat the peas liberally with acid phosphate and potash. Otherwise it would not help the soil very fast. It would be better to hog down the second crop of peas before planting the cabbages. Peas will supply nitrogen, but if they are removed repeatedly from the land and no fertilizer used they will reduce its productiveness rather than increase it, by the exhaustion of the phosphoric acid and potash already deficient in your sandy land. If the hay is fed and the manure saved carefully and returned to the land the method would be fairly good.

Sweet Potatoes in Kentucky. — Mrs. F. W. Herndon, Russellville, Kentucky. —"What varieties of sweet potatoes are best for the family garden? Should they be planted in hills or rows? Will mulching between the rows with straw be an advantage? How is the best way to keep them in winter where we have no cellar?" Probably the best varieties in your section will be the Southern Queen and the Yellow Nansemond. Sweet potatoes were formerly grown to some extent in rounded hills, but the general practice now is to set the plants on slight ridges or a list made by running furrows three feet apart in which the fertilizer is placed and then throwing a furrow over the first from each side. Set the plants which are started in hotbeds, about 15 inches apart in the ridges. Then cultivate with the ordinary small tooth cultivator and finish with the plow or a cotton sweep. Dig when frost nips the tops and handle carefully. Put in crates and store in a place where you can have fire to keep the temperature up to 50 in winter nights. Or pack them in barrels with dry sand and keep in a place secure from frost. If well dried off at first in a hot room they will keep more easily. You can get plants from most of the seedsmen.

Floats.—H. W. Dickinson, Centreville, Ind.—Floats, or pulverized phosphatic rock, from the Tennessee quarries varies from about 30 to 40 per cent. of total phosphoric acid. Of course you will understand that this is what is called insoluble phosphoric acid, and is slower in coming into use than the dissolved rock or acid phosphate. If it is very finely pulverized we can see no reason why it should not be nearly, if not quite, as valuable for phosphoric acid as bone meal and far cheaper. Of course it will not have the nitrogen in it that the raw bone has, but it has a higher percentage of phosphoric acid. For immediate effect we would prefer the acid phosphate, but for final results the floats will be found very good, and if you can get it at your place for $10 a ton it is worth buying, as you get a higher total of phosphoric acid than in the dissolved rock.

Feeding Alfalfa.—R. W. Scott, Junction City, Kan., writes in regard to what we said about Col. Carr's alfalfa and what the manager there told in regard to the feeding. Mr. Scott is still of the opinion that alfalfa is a dangerous food for horses. Now, it is evident that any highly nitrogenous material is not a safe food if fed alone, and we apprehend that Mr. Scott's trouble came from using alfalfa as the sole ration for horses. Bulletin No. 114 of the Kansas Station says, "Pure bred Percheron mares were recently inspected by the writer, that had been fed alfalfa hay in winter and given alfalfa pasture in summer for twelve years. They were in almost show condition, and had been and were regular breeders." In the Report of the Kansas Board of Agriculture for March, 1900, is an exhaustive article on alfalfa by Prof. Clothier of Manhattan, in which he says in writing of alfalfa hay: "If cut immediately after all the blossoms have fallen it makes excellent horse feed, but is too rich in protein to give the best results alone. Horses have been known to perform hard labor for months at a time with no other feed. There is no better food for colts. It builds up muscle and bone and develops strength. Mixed with prairie hay in the right proportion to make a balanced ration, it makes excellent horse feed." Recent careful experiments have been made at the Western Station with alfalfa hay as horse feed and the result has been that it is found to be an excellent food when properly used. Any legume hay that is rich in protein would probably have to some extent the diuretic effect that Mr. Scott has noticed if it is fed as a sole ration.

Beans Will not Cook.—O. A. Hudson, Terlton, Okla. — "Please tell me what our land is deficient in to grow navy beans. I have tried them on rich soil and on thin gumbo land, and grew some nice beans, but they will not cook in a half day fit to be eaten, while the seed I planted were good cooking beans." The only suggestion we can make is that probably there may be an excess of lime in your soil. But at this distance it is impossible for us to say if anything is lacking, and the above is only a guess, for lime would probably have that effect. Write to your Experiment Station at Stillwater and state the case, and they may make an analysis of your soil to ascertain the trouble.

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Plowing in Young Orchard. — "Subscriber," Salisbury, Md. — "I have a young apple orchard of 100 trees 3 years old, planted this season in canteloupes. Would it hurt the trees to plow the vines down after the crop is off in July, in order to seed it to crimson clover?" It will do no harm whatever.

Barley in Kentucky. — J. S. Bayne, Buel, Ky.—"I am a subscriber to the P. F. and like it very much. Would like to know if barley will be profitable to grow in Western Kentucky? How much seed per acre? Is it fit feed for horses? Is the straw dangerous to feed?" There are other small grains which we believe will be more profitable to grow in your section than barley, especially as horse feed. Still barley is largely grown in more southern localities, especially in Texas, and is well liked there. Many farmers who have tried it do not consider barley profitable. The straw of the bearded barley is dangerous to use even as bedding, as the sharp beards sometimes give trouble when eaten by animals, especially horses and sheep. It needs a heavier and stronger soil than oats. The crop is mainly grown in Western New York and Canada for supplying the grain to brewers who malt it for the manufacture of beer. In strong land the crop may be as much as fifty bushels per acre, but half that much is more common. The grain generally sells higher than oats. Seed is usually sown in spring at same time that oats are sown, and the crop is better adapted to the Northern conditions than the Southern. Further South, where it will not winter-kill, the crop is sown in fall as fall oats are sown. In your section you are intermediate, and the chances are against the crop being profitable either in spring or fall. It is usual to sow two and a half bushels per acre. You had better adhere to wheat and oats in Western Kentucky.

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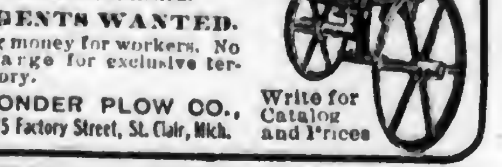

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Improving a Run Down Farm.—Mrs. F. W. Herndon, Russellville, Ky.—"I am a widow with one boy 13 years old, and have about 35 acres of poor land to cultivate. It is sandy but does not get dry early in spring for work. Have two horses and one cow, and want the land to feed the stock and support the family. It will yield about 10 bushels of corn per acre and 500 to 800 pounds of tobacco, our chief money crop. Makes fair crops of oats and peas. Can I divide this land into three lots of 10 acres each and follow a three-year rotation and increase the fertility of the soil, as I have not much to spend for fertilizers. If I sow 10 acres in clover to stand next year for hay or pasture, put 10 acres in corn next year, three in tobacco, three in oats, two in peas and two in sorghum or something to come on a little later, as the sorghum needs attention at the time tobacco is ready to cut. Then in the fall of 1904 sow the field that was in tobacco and other crops in clover to stand during 1905, and plow up the clover of 1904 and so keep the rotation going. Am a new subscriber and like the paper very much." We do not exactly catch your idea, and we fear that sowing clover on land so poor will result in failure. Better get the land up first and then sow the clover. If the land lies well to divide into three fields we suppose that you have already planned the crops for this year. If you have land in oats, for instance, we would cut them when the grain is in the milk state and make them into hay, and at once sow the land in peas. Cut these, too, for hay and put all the manure you make on the pea stubble during the winter after scattering rye over it and harrowing it. In spring turn the rye under with the manure for the corn crop, and plant peas among the corn at the last cultivation. Then let these peas die on the land and turn them under for the tobacco crop, adding some acid phosphate and sulphate of potash for the tobacco, and I think that then you will get a larger crop of tobacco. Of course, as you do not want the whole ten acres for tobacco, you can grow peas on part of it for hay, and in the next round of the rotation the part that was in tobacco should go in peas and *vice versa*, for the peas will furnish you far more feed on land of that character than clover will, and you will be getting it improved for clover. The only difficulty is in the starting of the rotation with the present crops. To give the land a start you will find that it will pay you to buy acid phosphate at least for the peas and thus get them to do more nitrogen catching for you and get more feed and hence more manure. We have simply indicated the course with one field, but you will understand that the other fields must drop into the same line year after year.

Sundry Questions. — F. D. Weidemann, Franklin, Ky., says that he is going to plant 14 acres in soy beans and expects to pasture on them 9 head of cattle, 15 hogs and 4 work horses. Wants to know when to turn the stock on and if there is any danger of their getting bloated, and whether they could consume the crop without waste. "Should tobacco after cultivating and smoothing with a short log be left so, or should a light harrow be run through to retain moisture? I intend to follow wheat, after harvest, with soy beans and cut them for hay. Will it pay to sow wheat after the beans on land that makes 12 to 15 bushels of wheat per acre, for a winter cover to plow under in May for soy beans or corn? I found alfalfa hay not bad for horses, having fed it seven years in Colorado, but prefer not to feed the third cutting to work horses, as it is so immature that it is too strongly diuretic, though the horses like it better than the early cut." Never having pastured soy beans, we are unable to give any advice from experience. But from experience with rank green crops in general, we would say that it will be very risky to turn hungry cattle on a field of soys, and we would never put horses on them at all. Cattle may gradually be accustomed to green food if only put on it a short time at first, and always when not particularly hungry. Whether stock will feed the beans down without waste depends on the rankness of the growth. There would inevitably be some waste from trampling, but how much will depend on the growth of the crop and the fertility of the soil. In no event would we turn stock on such a field until the beans are fairly matured. It would be much better to harvest the crop and use the hay or thresh the beans. Soy beans are easily cured and make very good feed, but there is a much larger proportion not eaten by stock than there is of cow peas, as the bean stems get quite woody. We suppose that you mean to drag a log through the tobacco rows after cultivating so as to smooth the soil. If that is done we would run a narrow smoothing harrow, such as we have for one horse, very lightly between the rows. It will pay very well to sow wheat on such land as a winter cover, but crimson clover would be better so far as results on the corn are concerned. If any of our readers have ever tried pasturing soy beans we will be glad to hear their experience.

Second Crop of Potatoes. — H. J. Healan, Rock Spring, Ga.—"I planted a peck of the Freeman and one of the Eureka potatoes to get a start of the seed. Now shall I plant this entire crop in the summer to make my seed for the next spring, or must I wait till next spring to plant? Am advised both ways." You will find it almost impossible to keep the early matured potatoes grown in the South until next spring, hence if you want good seed for next spring you should use the potatoes of this crop to plant in August for the seed crop. They will grow till the frost cuts the tops down in the late fall and will be easily kept in hills out doors for the spring planting. Our practice is to take the matured potatoes of the early crop and clip a small piece from one end, as they sprout more easily when slightly cut. Spread them in any convenient place in a single layer on the ground and cover with straw or pine leaves and sprinkle slightly if weather is dry to keep a slight moisture in the straw. Then as the potatoes show signs of sprouting plant them in deep furrows made by running the plow twice in the row and cleaning out. Cover them very lightly, and as they grow work the soil into them until perfectly level, and then work them level. Hilling is all right for the early crop, but for this late crop we want to retain the moisture, and therefore work them shallow and flat. Dig after the tops are killed and keep them in hills covered with pine straw and earth or in a cool cellar. You will then have the best possible seed for the spring planting. Eureka being earlier than Freeman, will give best results.

Rotation in W. Va. — W. D. Zinn, Philippi, W. Va.—"Would you suggest any change in the following? My business is mainly handling cattle and sheep. Rye sown on corn land in fall and turned under in spring and sowed to peas; peas cut for hay and land sown in wheat, with a little timothy, and a heavy seeding of clover in the spring. Clover and timothy mown three years, and then to corn and repeat. The more cow peas I sow the better I like them." As your object is mainly forage for cattle and sheep we would suggest that you might improve by sowing wheat on the corn land, mixed with hairy vetch, and mow it in the milk stage for hay, and then put the land in cow peas. You will find this crop of wheat and vetch to make excellent hay, especially if you give it a liberal dressing of acid phosphate. Then we think it would be better for the land to shorten the rotation by a year and mow the clover and timothy but two years instead of three, and after the last mowing to get out on the sod all the manure you can raise, to be plowed under for corn. If you get manure enough to cover the corn field you will need no fertilizer on the first crop of wheat and vetch hay, and could put some acid phosphate on the peas to advantage of peas and wheat, too.

Star of Bethlehem.—D. Linkenhoker, Springwood, Va.—"Please tell me the name of the enclosed flower, and how to get rid of it. It was planted in the yard a long time ago as a flower, and now has gotten out into the cultivated land, and is over about two acres of the best land I have, and in another year will choke out the grass, and every time I plow it it spreads it." The plant is Ornithogalum Umbellatum, commonly known as the white "Star of Bethlehem." There is a yellow flowered variety found further south. This one gets to be a great nuisance in lawns and in cultivated fields, and in some places the bulbs are as bad as the garlic or wild onion. It belongs to the great lily family and increases by bulbs at the base. The green leaves show very early in the spring, and if all the bulbs to be found are then dug out, and the land worked clean during the summer and none allowed to grow, and the cultivated crop is followed by crimson clover in the fall and this cut in the early spring and another cultivated crop planted you should get rid of the bulbs. Never allow it to seed in the yard and it may be kept in bounds. We have seen it in one locality in Maryland so thick that it choked out the wheat. Clean cultivation and smothering crops that require early plowing in spring are about the only means we can suggest to rid the land of the pest. Then if you pay boys a small sum per thousand for every bulb they can find in the field during summer you should get rid of them.

Supplementing the Hay Crop.—U. G. Shook, Greencastle, Pa.—"The hay crop will be a poor one here this spring, and nearly all farmers will have to sow something of quick growth in order to have enough long feed for winter. Would you advise Hungarian millet, cow peas or corn? If cow peas, what variety, what quantity per acre and the best method of sowing? When should they be sown and when cut? Land is moderately fertile. Would you advise any fertilizer? Which will make the most feed and be best for the land?" There is no doubt that of the crops you name the cow pea will be far the most valuable for feed. Some prefer to sow some millet with the peas, as they think it makes them more easily cured. In your elevated section this may be a good practice, though here we prefer the clean peas. Never sow the peas until the first of June. Drill with the grain drill about one bushel per acre of Black peas. Then sow three quarts per acre of Hungarian millet and run a smoothing harrow over lightly. Cut when the first pea pods are turning yellow, and cure as we have time and again advised in these columns. Of the crops you name the peas are the only one that will benefit the land. You will get a heavier crop and help the land more by using 300 lbs. per acre of acid phosphate mixed with 50 lbs. of muriate of potash.

Harvesting Canada Peas.—R. J. Milner, South Boston, Va., writes in answer to a recent query telling how his father in Ontario harvested Canada peas. On new, stumpy land they were pulled with a scythe by going the way the peas were leaning and taking a swathe as wide as in mowing hay. Take a step into the peas and reach as far as possible and pull towards you, rolling the peas so as to be convenient to load. On land clear of stumps the old revolving hay hake was found best, and far better than the sulky rake. To pull with the rake, go across the way the peas are lying, starting at the side the peas lean from and take a half swathe. Coming back, have horse walk at edge of unpulled peas and go far enough past the last dump on the first swathe to pull it clear before dumping again. Have a man follow with pitchfork and roll to one side, with only a forkful in a roll. If the peas are grown for seed they must be let get full ripe and will not shatter much. His father's sheep had no other feed in winter but the pea straw, a few loads being raked when half green to feed before the lambing time. To thresh peas use the oat or barley sieve in separator. Remove toothed concaves. Shape on ends one inch rough plank of same width as the concaves and put in their place. They will be good for six to ten hours threshing. I want to thank the P. F. writers all for the many valuable lessons they have given me."

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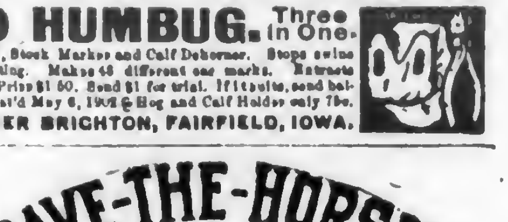

POSITIVELY AND PERMANENTLY CURES Bone and Bog Spavin, Ringbone, (except low Ringbone) Curb, Thoroughpin, Splint, Capped Hock, Shoe Boil, Wind Puff, Weak and Sprained Tendons and all Lameness.
From owner of "Sable Great" (2) 2.22-¼.
Riegelsville, Pa., May 18, 1903.
I used "Save-the-Horse" on a very valuable filly that was turned out last spring and while running slipped and sprung a spavin. At the suggestion of my Veterinarian, I blistered her twice without any improvement. I then procured "Save-the-Horse" and am able to report an entire cure. The filly goes without the slightest lameness, not even a hitch or drab being apparent. I believe your great remedy is so valuable that no stable should be without it.
Lee S. Clymer, Prop. Durham Knitting Mills, also Sunnyside Dairy & Monroe Stock Farms.
Memphis, Tenn.
Please send us at once 8 bottles of "Save-the-Horse" for Mr. Ben White of the Village Stock Farm, who recommends it highly. W. S. Bruce & Co., Horse Goods Supply House.
Waterbury, Conn., May 17, 1903.
I have used your "Save-the-Horse" and recommend it and you may send me six bottles C. O. D. I can refer you to Mr. Joslin, of Joslin & Allen and to A. F. Hinchey, both of Waterbury, and friends of mine who have used it and who will give you testimonials. I would like to take the agency for this section. Please let me hear from you. H. B. Lourks, Boarding, Sale & Livery Stable.
Cuba, N. Y.
I had a big four year old horse that was very lame from a bad bone spavin. I tried several remedies without success. I used one bottle of "Save-the-Horse" and worked the horse right along and he is perfectly sound and has been so for some time.
F. Brown.
Firing, mercurial and poisonous compounds produce irreparable injury.
"Save-the-Horse" eliminates all these factors.
Horses can be worked continuously.
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Written guarantee with every bottle. Constructed solely to satisfy and protect you fully. Need of second bottle is almost improbable, except in rarest cases.
$5 per bottle at all druggists and dealers, or sent direct, express prepaid, by the manufacturers.
Troy Chemical Co., Troy, N. Y.
If you have a case send for booklet and copy of guarantee.

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First proved by the Kansas Agricultural Experiment Station, and since corroborated by thousands of leading stockmen who have used it without a single failure. Equally effective for the diarrhea of all animals.
PREVENTS weak bones, paralysis of the hind legs and "thumps" in pigs; "big head" of foals; "rickets" of all young animals; abortion due to incomplete nutrition, and a host of other troubles.
A Potent Food for Work Horses, Dairy Cows, Poultry.
Write us for booklet giving valuable information about Blood Meal and our other feeding products. Consult us free of charge regarding stock diseases.
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Live Stock and Dairy.

☞ If stock breeders who have live stock to sell will use the columns of the P. F. they will be surprised at the results. A 4 line stock advertisement inserted one year will cost $37.44, only $9.36 per quarter, and will keep your business in a healthy and profitable condition

More Hay Needed.

PROF. A. M. SOULE.

According to the census of 1900 the average production of hay per acre in five of the leading Western States was 1.24 tons, while in five Cotton States it was found to be 1.81 tons. For Alabama the yield per acre is put down as 1.85 tons, and for Tennessee and Kentucky as 1.40 tons. While the State of Iowa produced 5,647,000 tons of hay, the largest amount produced in the South was 548,879 tons in Texas. In many of the Southern States not more than 50,000 to 100,000 tons of hay are grown, though there are any number of crops that might be cultivated successfully for the production of hay which would give, in many instances, a higher yield of nutrients per acre than those utilized in Iowa to produce its enormous crop. These figures explain why stock husbandry has not made greater progress in the past, because it is impossible to winter feed animals successfully without an abundance of cheap roughness. This condition of affairs is directly traceable to the mildness of the Southern climate, enabling stock to gather up so much of their living in the fields, but that the system is entirely wrong and that it calls for radical changes in the management is very evident.

Satisfactory Rations.

The selection of a suitable ration in feeding any class of live stock is a very important matter, as it influences the rate and cost of gain and the character of the slaughtered carcass to a surprising degree. Thousands of satisfactory rations can be compounded by the farmer to meet his individual needs, but indeed, he must solve the ration problem for himself to obtain the greatest success. This is necessary for several reasons. Among others the food-stuffs at his command will vary with the method of farming pursued and the law of supply and demand determines market values. This necessitates his inquiring into the relative feeding value of his home-grown food supplies and those the market may offer in order that he may purchase the largest amount of nutrients for the least outlay of money and then so blend them as to obtain the best results in feeding. Ration building is a lucrative and alluring pursuit for the farmer once he enters into the "spirit of things." The following rations have been found very satisfactory at the Tennessee Experiment Station. They are merely suggestive and can be modified to suit the individual needs of the farmer. The proportions suggested are for animals weighing 1,000 pounds. To secure the most profitable gains animals must be fed on the basis of their live weight.

FOR BEEF CATTLE TO BE STALL FED.
Feeding period 150-180 days.

Initial.	
Corn and cob meal, 1 part Cottonseed meal, 2 parts	4 lbs.
Silage	25 lbs.
Final	
Corn and cob meal, 2 parts Cottonseed meal, 1 part	12 lbs.
Silage	40 lbs.
Initial.	
Cottonseed meal	4 lbs.
Silage	25 lbs.
Final.	
Cottonseed meal	10 lbs.
Silage	40 lbs.

FOR STOCKER CATTLE TO BE WINTER FED on light ration of grain and cheap roughness and finished on grass the following summer.
Feeding period 150-180 days.

Initial.	
Corn and cob meal, 1 part Cottonseed meal, 2 parts	3 lbs.
Silage	20 lbs.
Final.	
Corn and cob meal, 1 part Cottonseed meal, 2 parts	4 lbs.
Silage	40 lbs.
Initial.	
Corn and cob meal, 1 part Cottonseed meal, 2 parts	3 lbs.
Stover	10 lbs.
Final.	
Corn and cob meal, 1 part Cottonseed meal, 2 parts	4 lbs.
Stover	17.5 lbs.

FOR HORSES.

Corn	8 lbs.
Oats	2 lbs.
Clover hay	15 lbs.
Corn	10 lbs.
Cow pea hay	12 lbs.

FOR HOGS.

Corn meal	3 lbs.
Skimmilk	12 lbs.
Rye meal	3 lbs.
Wheat middlings	2 lbs.
Corn meal	2 lbs.
Wheat middlings	3 lbs.
Barley meal	3 lbs.
Wheat middlings	2 lbs.

FOR DAIRY COWS.

Wheat bran, 3 parts Cottonseed meal, 1 part	6 to 10 lbs.
Silage	30 to 60 lbs.
Cottonseed meal	4 to 6 lbs.
Pea or clover hay	6 to 8 lbs.
Silage	20 to 30 lbs.

Tennessee Experiment Station.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Sore Shoulders.—I have a work mule 8 years old, with tenderness on surface of shoulders; the same character of work of other mules makes no impression on their shoulders. Within a day or two after fallowing is commenced the hair rubs off, leaving an angry looking spot on either shoulder.
Elkton, Ky. B. T. PERKINS.

Take pains to keep collar clean and as dry as possible. Sponge the shoulders night and morning with a solution of half an ounce of tannic acid in a quart of water and just before harnessing each time, wet the sore spots with a solution of one part tincture of iodine to three parts extract of witch hazel. The latter solution is only to be used when shoulders have become sore and show angry wounds as referred to above. There will be less trouble from such sores if you make it a practice to remove the harness at noon and after brushing the inside of collar set it in the sun and brush again when harnessing for afternoon's work.

Contracted Tendons.—Will you please state symptoms of horse when the cords in forward legs draw up or stiffen? Also give treatment for same and manner of shoeing.
Marion, Mass. D. A. SPERRY.

Your statement is not very clear, but we presume you mean contracted tendons of forelegs, in which case the tendons are usually found to be thickened and the ankle tending to knuckle forward. In aggravated cases of knuckling an operation is the only relief, and this consists in severing the tendons with probe-pointed bistoury through a small wound made in skin. It is a delicate operation and requires intimate knowledge of the anatomy of the parts and care in subsequent treatment so that the work should be placed in the hands of a competent veterinarian. In cases of less severity, where the knee is merely sprung and a tendency to knuckling exists a high heeled shoe will be found beneficial, and after clipping hair from tendons from back of knee to foot the parts should be severely blistered with cerate of cantharides twice a month. A week after each blister has been washed off turn the animal out to grass. If it is possible to allow pasture for the season then it would be best to keep toes short but not shoe as above advised. Write again if we have not properly understood your needs.

Weak Back.—I desire to know what is the matter with my colt, which is about four years old. Up to time it was two years old it appeared to be sound and healthy; since then it has shown signs of weakness across its back at the loins, so severe at times that she can hardly get up. H. H. HOOVER.
Oakwood, O.

Symptoms stated may be due to one or other of a number of different complaints such as sprain of the psoas muscles (tender loin), kidney disease, rheumatism, osteo-porosis or big head, chorea (St. Vitus's dance), etc. If the colt has been hard pulled before the trouble appeared sprain of the psoas muscles would be the most likely injury and of this we would simply recommend a long run on grass, say for the entire season, without work of any kind. If on backing colt out of stall you notice that he jerks his hind legs up suddenly for a step or two he is affected with chorea, which is incurable and makes him what horsemen term a "shiverer" or "crampy." If barn is badly ventilated and damp, rheumatism may well be present, and colt should be changed to a roomy box stall in dry, sunny, well ventilated stable. In some instances of this sort we have seen the trouble due entirely to lying upon damp dirt or cement floor. On general principles we would advise you to feed the colt well on oats and bran, adding dried blood meal twice daily and giving a bran mash once or twice a week unless eating green grass, which keeps the bowels freely open. In the food twice daily mix one drachm of dried sulphate of iron and half a drachm of powdered nux vomica for at least two weeks.

Castration.—Lameness. — 1. What is the best time, as to age, to castrate a bull for the purpose of raising for steer? Also, should the cords be tied if operation is performed while quite young, or simply remove testicles as in hogs? 2. Three-year-old filly went lame in front foot while on pasture; seemed to suddenly go lame after running; extended her foot forward and then when she started off would put no weight on the foot. Would give over in the knee at each step. Local veterinarian pronounced it ringbone and blistered for same and left blister to be applied again at end of week, which will be tomorrow; also said if that didn't cure, would have to fire it. Since being blistered she has improved a great deal and walks all right on foot for short distance, but when walking further still limps. Has never been broken to work as yet. F. A. JENNER.
Newburgh, Ind.

1. Where calf is castrated very young (under one month of age), the operation is similar to that for pigs, with the exception that as soon as the testicle assumes some size, as occurs in well grown calves, the cord should be scraped through, not pulled out entirely. In calves over one month, and up, we prefer to sever the cord arteries by means of an emasculator, which crushes through the tissues and prevents bleeding. In performing the operation the incisions should be made very free to allow of perfect drainage. Also take care to split the envelopes of the testicles completely through down to the purple testicle, as in so doing the steer will afterwards have a well filled scrotum when fat and this counts for something when the animal is being examined by an expert buyer. Properly castrated, the fat steer has always a large, well filled "cod" and this is a point looked at by buyers in forming an opinion as to the ripeness and quality of the animal. Best time to castrate calves, in our opinion, is when over fifteen days and under six weeks. It is well to castrate young, as a "stag" appearance is detrimental in steers. 2. It would be most unusual for ringbone lameness to come on in manner mentioned. At same time, if there is a plain ringbone easily detected, it might cause sudden lameness if injured. In such case the ringbone would have to be large enough to have cemented the bones of the coronet together, and lameness would be due to sudden sprain rupturing this union, and of necessity setting up periostitis. If no ringbone can be plainly seen then we would suspect foot lameness from sprain and the blistering would be likely to relieve the pain and finally remove lameness. If, on the other hand, it is ringbone, the chances are very poor, as forefoot ringbone is rarely curable, in that the concussion upon forefoot is much greater than on hind foot, and concussion is also direct instead of slanting. Also ringbone continues to increase in size and bones of animal are also increasing in a three-year-old, so that firing and blistering rarely give permanent relief. Filly should not be used for breeding, as ringbone is transmitted hereditarily to the progeny.

Knuckling.—I have a horse that I fear is going to be "ankle cocked," as we call it in these parts. When standing without much weight on one hind foot the ankle will not take a natural position, and occasionally he will stand on it the same way with weight on it. C. H. B.
Athens, N. Y.

A tendency to "knuckling," as it is usually called, is generally due to standing too much in a stall and eating too much grain and other food. It is most seen in young stallions forced from birth for show purposes or sale. Place the horse in a roomy box stall when in barn. A stall with inclined floor is bad for such complaints. Cut rations and increase work, or see that exercise is given every day. A run on pasture for the season without other food would be likely to correct trouble. If this cannot be done then shorten toes, put on shoes having small heel calkins but no toe calkins. Clip hair from back tendons and blister with cerate of cantharides as so often advised in this department of the P. F. Blister may be repeated in one month if necessary. If you do not care to blister on account of having to work the horse rub well with soap liniment twice daily. A derby bandage put on leg from foot to hock when horse comes in from work is also useful, but this cannot be done while using liniment or blister.

Tumors.—I bought a thoroughbred Holstein bull calf, and when five weeks old I noticed a lump on his left jaw, this about two weeks ago. He now has a lump on each side, nearly as large as a man's fist, and feels like a bone. Now it is not on lower jaw, but right where the grinders meet.
Mantua, O. M. D. MILLER.

Examination of the mouth in such cases often discloses that food has lodged between the teeth and cheek and given rise to the tumor described. Sometimes a tooth is out of place or a tumor forms at the base of a tooth. In this case we feel almost sure that something of this sort will be found for the calf is too young to have such large tumors from actinomycosis (lump jaw). Should you not find such a cause, the removal of which would do away with the enlargements, clip hair from part and rub once daily with iodine ointment. Stop for a few days when skin becomes sore and after skin is well again repeat the treatment if necessary. Tumors should be lanced should they become soft, denoting the presence of pus. We would much like to hear from you again with an account of what you find on careful examination of the mouth.

Skin Trouble.—I have thirty-five spring pigs that are now a month old. They are not doing well. Feed the sows corn, grass and shorts. Pigs seem to have some kind of disease as they are nearly always scratching. Will stop eating, and scratch.
Bunker Hill, Ill. H. LANCASTER.

You do not furnish much information to suggest cause of irritation present, but our first guess would naturally be lice, and we would advise you to make a careful examination for these vermin. It is also important to have the sleeping places clean and dry and so that the sun can enter. Sleeping in dark, damp, badly ventilated places often tends to produce troubles of the skin and other organs. The excessive use of corn for nursing sows may also set up trouble in the pigs. On general principles we would advise you to give the pigs a change of pen after dipping and scrubbing them in a solution of Chloro-Naptholeum and sulphur. The pen should also be well scrubbed with disinfecting solution and then whitewashed. See to it that the sow and her pigs get all the exercise possible on green grass or clover, and stop feeding corn to the sow, but continue use of shorts or middlings, bran and milk.

Lampas.—Kindly give remedy for 4-year-old mare with lampas in such bad form as not to be able to eat ear corn at all, and refuses more than half of her usual feed of ground corn and bran. U. W. HARSHMAN.
Waynesboro, Pa.

As a rule lampas, so-called, is a mythical disease, the true trouble in the mouth being due to dentition irritation and inflammation. As your filly is but four years old she is cutting a number of large molar teeth, and the incisors may also be giving trouble, so that the gums are swollen around the cutting teeth and the palate or roof of mouth is swollen in sympathy. In barbarous days blacksmiths used to puncture the swellings deeply with a sharp horseshoe nail and then burn parts with a red-hot iron. Scarification is rarely necessary, and when done should be performed with clean, sharp knife. It is better, however to attempt removal of the cause than make the mouth sorer than it was before. Lancing should be confined to the gums over a cutting tooth. Swabbing the mouth two or three times daily with a solution of one ounce of borax or alum in a quart of soft water will then usually suffice to reduce the swelling and inflammation. In young colts an ear or two of hard corn may be placed in the manger for them to chew on, as a young baby does on a rubber ring. Internally give your filly two ounces of the following mixture three times daily as a tonic and appetizer: Hydrochloric acid, one drachm; fluid extract of gentian root, one ounce; fluid extract of nux vomica, half ounce; alcohol, two ounces; water to make one pint; shake. Twice a week feed a soft mash of bran and flaxseed meal and allow green grass if she will take it.

Founder.—Mare 8 years old is very stiff in her fore parts and stumbles and limps when she walks. She is very fat, high lived and splendid worker; weighs 1,250 pounds. Does not flinch except when I pound feet very hard. When she stands still she puts the right front foot forward. E. D. JAMES.
Irwindale, Cal.

There can be little question that she is afflicted with chronic founder (laminitis), the seat of which is the forefeet. The cause would be either high feeding, concussion upon hard roads, or rheumatism. As she is in foal it would not be safe to give her medicine internally, but we think much benefit will be derived from blistering her coronets repeatedly. Clip the hair from hoof heads of both forefeet and blister with cerate of cantharides, two ounces; biniodide of mercury, two drachms; mix. Rub this blister in a little at a time for 15 minutes, and when done smear some of the ointment thickly upon part. Tie her up short so that she cannot lie down or bite parts. Wash the blister off in 48 hours, then smear blistered parts with lard daily, and after keeping her in a box stall for a week turn her out barefoot upon a low, soft pasture. Repeat blistering in three weeks if she is still lame at end of the time and skin is not too sore. As she is fat it would be well to reduce her feed so as to get her into better muscular condition before foaling. If the grass pasture is good she will not require additional feeding before foaling. We are taking it for granted that you have made a search for corns and not found them to be the cause of the lameness. Pointing of the foot forward when at rest always indicates foot lameness but may come from corns, stone bruise, sidebones, quarter crack or nail prick, so that it is important to make a careful examination before coming to a conclusion as to cause of lameness. We fully believe, however, that founder is the true cause of this lameness, as she is fat, etc.

Indigestion.—Horse five years old seeks to urinate but passes small quantities of dirty water; later, he will pass water all right. Has been lame off and on; legs badly swollen and got sore at the heels; we call it scratches. Swelling goes down when I drive him. He also, three weeks ago, got small lumps on neck where collar rubs, about the size of a bean. Did not burst, but are slowly going away. Horse shows lots of life. Feed him 4 quarts oats and 1½ pints bran mixed dry, and good timothy hay. He chews wood at every opportunity. Have an underground barn; no ventilation. Horse has a heavy coat, but shedding quite well under circumstances. J. A. STRAUB.
St. Marys, Pa.

All of the symptoms noted may be rightly attributed to standing in a non-ventilated basement barn, eating plenty of food and not getting sufficient exercise. Placing him in an airy, clean, light barn and allowing plenty of work or exercise every day, wet or fine, will soon remove trouble reported. Have him clipped at once and change him into a roomy box stall in a barn such as we describe. It is utterly useless to give medicines while keeping animal in an unsanitary condition and environment. After changing his stable give him an ounce of glauber salts twice daily and increase or decrease as found necessary to regulate bowels and kidneys. It might also be well to have his sheath washed out with soap and water, removing all sebulous matter collected there and then rinse off thoroughly with a solution of one ounce of alum or borax in a pint of soft water. Toughen the shoulders by washing twice daily with a solution of half an ounce of tannic acid in a half gallon of water.

Chorea.—Four-year-old mare seems very hard to handle and keep in health. She cannot stand to be touched suddenly or very hard. She is very sudden in every move she makes. When hitched alone she does not act nearly so cross. We feed her from 2 to 4 ears of corn besides a little bran or oats and plenty of hay. Seems to be always hungry for grain. She stays quite thin on what we feed her, but we are afraid to feed her more.
Arlington, Neb. UNLAND BROS.

The mare is apparently afflicted with chorea a nervous trouble akin to St. Vitus' dance of man and incurable. This trouble constitutes what horsemen term a "shiverer" or "crampiness" and is best noticed when horse is made to "get over" in stall or when backing out of it. At such times the hind legs are jerked up suddenly for a step or two then the animal apparently goes sound but is always nervous and tender and more so at times as you describe. Whether this disease is present or not you will find that this mare is incurable and a nuisance, and we would not advise you to bother with her. A long run on grass, for the entire season without work, would doubtless do her more good than any other treatment. She should not be used for breeding purposes as such animals are best not perpetuated, seeing that these vices are transmitted to progeny. You are feeding too much corn to your horses and would get much better service from them were you to substitute oats during work in summer. The corn is all right in cold weather and when horses are not doing much work, but a muscle-maker like oats is needed when work is heavy and weather warm. Alfalfa pasture gives muscle-making material, but being succulent, keeps bowels too open, hence work horses should have but a little of it daily when there is much work to be done. The bran should be used in shape of mash once or twice a week if green food is not used. It is best not to be used daily, as it tends to sour on the stomach and cause indigestion and scouring. Always water the horses before and not soon after feeding, and see that stables are kept clean and well ventilated. Dirty, badly ventilated stables are a common cause of stocked legs and other troubles.

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THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

Talks on Timely Topics.

Planting for Succession. — In any well-regulated garden — whether for home use or market—we have to plant something not only every week during spring, summer and early fall, but also every year for permanent cropping. We may have an asparagus bed, a rhubarb patch, a field of strawberries, raspberries, blackberries, etc.; but we cannot rest contented in their possession, as they need re-arranging and re-planting, more or less, every year. It is true that an asparagus patch might be made to last a lifetime, and that rhubarb is practically proof against dying out from natural causes by age, and that currants and gooseberries, grapes, blackberries, raspberries, etc., will serve us a good many years with proper attention. And yet the old asparagus patch may not be where we want it, or it may not yield the mammoth and brittle shoots that we could expect when planted under more favorable conditions, especially by giving more space and fitting the land more thoroughly and liberally. And the old rhubarb patch will have roots spreading out so that we get an excessively large number of eyes and stalks, and all of them especially during the more advanced season, of rather small size, *i. e.*, slim rather than "fat." And raspberries and blackberry bushes become enfeebled by age and disease, etc. Strawberry patches need annual, or at most biennial renewing anyway, etc. In short, there is plenty of replanting to be done all the time in order to keep up a real satisfactory supply of all these things. But when we have all such patches once started, it is an easy matter to keep it up, and start new or renew old plantations. Whenever I have a little spot of ground that I would like to use for rhubarb, strawberries, currants, raspberries, gooseberries, etc., I can plant it at any time, and without trouble, even what many growers would call "out of season." The plants are ready. I can spade up some rhubarb roots in the old patch in spring or fall; or take up some strawberry plants, raspberry plants, blackberry plants, currant bushes, etc., whenever needed. Sometimes I plant a fresh row or two of strawberries, even after the fruiting season, by making a good hole every four feet apart in the row, then spade up a chunk out of the old strawberry row, and put it right into the hole, the plants growing right along, making runners, and soon showing the matted row. Or when I want to start a new row of raspberries, even during summer, I can take up some young plants out of the old rows, and plant the new one. In short I always have what plant material I want, or need, on hand, and thus find it easy to keep things going. And when a neighbor comes over and wants some plants, he can have them, which gives me the chance to either oblige the neighbor, or put a little ready change into my pocket. These are some of the pleasures or advantages of the well-stocked up home or market garden.

Rhubarb for Money.—About the first ready cash we get from the garden, year after year, comes from the rhubarb patch. It is one of the satisfactory money crops. When a patch is once started, it is easy to keep up the supply. Of course, the land must be very rich, indeed excessively rich if we want those great fat stalks. But as it is a comparatively small piece of ground, and the returns from it are very big, we can afford to be very lavish with the best quality of manure. I also make it a practice to use ashes (coal and wood) freely on the rhubarb patch. But it will always be necessary to take up the old plants every few years, divide the roots and replant them, which may be done on the old spot, or on a new patch. I have just planted a new asparagus row (Giant Argenteuil, Columbian White, etc.) by digging a trench two feet deep and about two feet wide, filling this with a mixture of old compost, barnyard scrapings, coal ashes, etc., then filling some rich soil on top and setting the plants into it two feet apart. I expect really mammoth stalks from this row in a few years. Sometime this fall I shall plant a few rows of rhubarb in the same manner, and setting the plants deeply enough so that I can protect them by a narrow frame around the row, covering this in spring with sash or in other ways, and piling fresh horse manure on the outside of the frames. Early rhubarb pays so well that we can well afford to take some extra pains with it. In fact, rhubarb is getting to be an important crop for forcing, both in cellars and in specially constructed houses. Plan of such a rhubarb house will be given in a coming issue.

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Notes From a Carolina Garden.

May 9th.—We dug our first mess of new Irish potatoes today, Bliss' Triumph and Eureka. These were planted in December. Wakefield cabbages are well headed and are very fine. We are cutting our last crop of Wonderful and Hanson lettuce. The Wonderful deserves its name, for we are getting heads that weigh three to four pounds, and all grown in the open air. Later than this it is usless to attempt much with lettuce here, as it bolts to seed before heading, and is not good in the hot weather. The extra early peas are about over with, and the later ones are filling fast. We are still getting some of the Gradus, and it is a remarkably fine pea. Yorkshire Hero, which is not yet ready is one of the finest of all peas, we think. Prizetaker onions which were sown in the frames have now been transplanted and we are expecting some big onions from them. The green onion crop of Queens is nearly over and has been very fine.

The tea roses are now the glory of the flower garden, and Amaryllis Johnsonii is a glory of big red lilies, some of the bulbs showing three flower spikes with four flowers each. Dahlias have just gone into the ground, as we try to keep them back as long as possible to prevent their blooming in the hot weather.

The weather having turned dry, we put a slight mulch of fine manure on the ground where the muskmelons are planted and not up, hoping to keep some moisture there to help them. Our season started early in March, but has turned out to be an unusually late one.

The strain of the Wakefield cabbage known as the Charleston is but little behind the ordinary Wakefield, and the heads are larger. For shipping purposes I am not sure that this is an advantage, as the market men say that a cabbage of the early Wakefield type that takes 75 heads to fill a barrel sells better than larger ones, as the retailers prefer the small heads. But for home use I prefer the larger heads. I have a splendid crop now on hand of the Charleston Wakefield, and while I never eat boiled winter cabbage I can eat the early ones with impunity. The present week will see the end of the crop of Hanson and Wonderful lettuce, and finer lettuce it is hard to find except the strain known as Maule's Improved Hanson, which, while not so large as the Wonderful, is of rather finer quality, and so brittle that it will never make a shipping lettuce. The market growers of Eastern North Carolina have shipped during the past winter and early spring fully half a million dollars' worth of lettuce to the Northern market, and it has become one of the most profitable vegetable crops going, going to market when no other work is pressing. It costs a great deal to fit up frames for winter lettuce and success with the crop is only for those who devote special attention to it and produce a fine quality of heads. The great strawberry crop is drawing to a close, and the market growers say that it has been a remarkably profitable one and has brought wealth to many and prosperity to large sections. In my own garden I have been testing varieties. One of the finest here is the Seaford. It is a showy fruit and a prolific bearer, but as the season advances it gets too soft for the shippers. Gandy is now winding up the season, and is a magnificent berry and ought to be a very profitable one for the Northern growers, as it will come in there at a season when there are no Southern berries to compete with it. Howell is a splendid mid-season berry, though it makes too many immense coxcomb fruits. West Lawn is similar in appearance to the Seaford and is a far firmer berry, though not so productive as Seaford. But its high color and size will sell. The old Sharpless is still among the best, and is hard to beat. The round berries like the Clyde, Ridgeway and Cumberland Triumph are good, but all have the defect of coloring badly, and are soft. The Excelsior and McKinley are the earliest berries we have and are productive, but they run down so small as the season advances that by the time the large berries come on they are not worth picking. We are having a hard time to get any of the sugar corn seed from the North to grow. The early planted rotted in the excessive wet weather, and later the ground is so dry that it has been hard to get it up. We keep planting, however, and now plant only the Egyptian and Stowell's Evergreen, as they suit our climate better than the early varieties. Melons, too, are having a hard time in the dry weather that has succeeded the wet. I have a number of varieties planted and hope to have something to report about them later. Tomatoes are later than I ever knew them, and it looks now as though it would be nearly July before we get any. Early Ohio and Eureka potatoes are ripe and of fine size and our garden crop is nearly dug. This is the earliest I have ever had good potatoes. The main crop of early potatoes in the field is still to be made, but they are looking well. The Queen onions have been a very profitable crop and are now nearly over as green onions, for they show signs of ripening. Plum trees of all sorts are loaded with fruit, and peaches, too. Having a great variety of plums I will say something about them later.

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Points and Pickings.

Prizetaker Sets are first-rate keepers.

For a Mild Onion, Gibraltar is unexcelled, and Prizetaker comes next; and the flavor is not affected by transplanting, either.

Will Sunflowers Improve the soil? The ashes from their stalks and leaves are mostly pure potash, so that the drain on that plant food is heavy.

The Farmer's Garden.—According to last census, only 55 per cent. of the farms of the United States maintained a family garden. It is time that the other 45 per cent. of our farmers wake up.

About Soy Beans.—Information about them is asked for by many. Plant like bush beans, only somewhat more thickly, and in drills rather than in hills. Try the soy anyway. They are interesting, and may prove very useful, especially as a fodder plant.

Winter Tomatoes and Lettuce cannot well be grown in the same house, unless a part of the house is partitioned off and made warmer than the other parts, and to be used for tomatoes, cucumbers, or other crops requiring a higher temperature.

Bottle Onion.—Can any reader give me information about an egg-shaped (or bottle-shaped) red multiplier onion? Who has grown it? Where did it originate? It seems a fine thing, and possibly very valuable. Please report on this onion.

For Quick Growth of forced crops, we need sunshine. Six weeks of mostly clear weather during winter will bring a crop of lettuce, starting with good plants, to market size, even with moderate heat in greenhouse. It's dark weather which retards growth, so that the crop may require ten weeks.

Muslin-Covered Sashes are good enough, perhaps, for covering cold frames and hotbeds on cold nights, or inclement weather generally, and for such crops as cabbage plants and lettuce, or for tomato and tobacco plants late in the season, when the sun can be depended upon to give the required heat without glass protection. I prefer the glass at any time.

It's a Problem Yet, how to grow celery very early without danger to the plants from running to seed. When seed is sown under glass in February, a large proportion of the plants usually bolt. Early transfer to open gound, and exposure to a late freeze, may also cause them to run to seed. When you have good plants, set them as early as can be done without exposing them to the risks of a late freeze, and do everything to promote uninterrupted and succulent growth.

Good Table Beets.—We have made a trial of many varieties of table beets, as introduced by different seedsmen, and consider Eclipse and Detroit Dark Red superior sorts. There are other varieties that differ but slightly from these. For the first time in twenty years, we have this season planted but a single variety of table beet—the Detroit Dark Red. This variety is of color as indicated by name. It is very sweet and tender—really delicate and melting. We made our first planting of it in early spring; and the last June 25th. ALDEN S. MOORE.

Morrisville, Vt.

Cutting Strawberry Runners.— Last spring I took a pair of cloth shears and broke off the points of the blades so as to leave them about 1½ inches long, and fastened them to sticks 2½ feet long, 1 inch wide and ½ inch thick with two chicken fence staples to each blade, one around the shank, and one at the end of the bow so as to have them about 4 inches apart when the shears are closed. I hold one stick in my right hand and move the other with my left. With this tool I can clip three or four runners off at once, and get over the piece quite fast. The sticks should be attached to the handle of the shears, so as to leave the rivet handy to get at, as it may get loose and must be tightened. CEPHAS APPLEBEE.

Vineland, N. J.

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The Ormas Incubator. — Probably no reasonable priced incubator has a larger sale or a greater number of friends than the Ormas. This machine is made of the best material, but being made in a small town, where the cost of construction is reduced to the lowest point, can be sold at a low price and yet be made of good material. The sales double up every year and now the Ormas is known all over the country as a strictly first-class low priced machine. Mr. Banta has made a study of incubation and understands what is needed in building such a machine for the average operator. Send for their catalogue to L. A. Banta, Ligonier, Ind., being sure to mention the P. F.

Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Flowering Shrubs.

Very much of the pleasure spring brings to us all comes from the beautiful picture flowering shrubs present to us. That spring may seem the more beautiful the Creator has caused the loveliest shrubs to bloom at that time. What a list of attractive flowers there is in bloom then. The golden bell, flowering almond, flowering peach, deutzias, weigelas, snowballs, spiræas, pyrus, exochordas and others come to mind as I write; and then, when these are over, there come the roses to usher in summer. And though these are all spring flowering, if confined to the planting of but one of a kind, such a selection could be made that would give some flowers, one after the other, from the earliest day of spring to its close. Considering the list given, the first to flower is the golden bell (forsythea), and the last, deutzias. With us, in Philadelphia, the latter shrub flowers in early June. The Deutzia Scabra is meant. The dwarf one, D. Gracilis, flowers much earlier. Besides the pleasure of having the sight of these beautiful bushes before us, there is the pleasure of cutting sprays of them for our own table and to give to our friends. We get our weigelas, spiræas and snowballs in flower towards the close of May, usually, at the time Grand Army posts are looking for flowers. Weigelas and snowballs are much valued by them, the sprays making a background to other flowers. A few shrubs well cared for reward well the one who watches them. Homes with shrubs about them are attractive; and beautiful objects of whatever kind make better those associated with them. Watch the various shrubs that flower through the season, making note of those desired which can be planted in the early autumn.

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Horticultural Queries.

Gophers, etc.—1. Can you give a remedy for gophers in young orchard? Have lost one cherry and three apple trees by gophers cutting roots. 2. Can I bud or graft Downing's Seedling onto Russian mulberry? 3. Planted melons in raspberry baskets; a good many wilted and died. Were planted over fermenting manure. Do you think insects in manure the cause? W. R. TEALE.

Calistoga, Cal.

1. We have no experience with gophers here, but in your State a standard remedy for their destruction is bisulphide of carbon. A small portion is poured in their holes and the hole immediately closed with dirt. The fumes will kill them. 2. You can use the Russian mulberry as a stock for the Downing. 3. Regarding your inquiry concerning the rotting of the melon plants, it is more likely to have been caused by the grass from the fermenting manure than from insects. Insects are not very active in fermenting manure.

Leaf Curl.—Last fall I set out 400 peach trees of the following varieties: Early Crawfords, Champions and Albertas. Some were planted in fairly good soil, others in cold, stiff land. They were also cut back to a whip. Now I would like to find out the trouble with them. I send by the same mail a sample of some of the buds. The Albertas seem to be the most affected and they look all right when they first bud. Some of the trees are doing very well; others are not.

Washington, D. C. W. W. CONNER.

The specimens were received, and show a bad case of leaf curl. It is probably the cold, wet ground that has caused it. Poor soil, lack of food and cultivation will bring it on. The cutting back had nothing to do with it. Cultivate the ground, to encourage growth, and spray the trees with Bordeaux mixture. As the trees grow they will leave the curl behind them. By mid-summer you may be satisfied with your trees, for the curl is usually seen in spring when at all, and rarely lasts until summer. Cold, stiff land is not the place for the peach.

Injured Peach Trees. — Enclosed you will find twigs and leaves taken from peach tree. Will you please notify me what remedy to use? The sap runs out of the end of limb and withers and dies. I also find it on the thick of limb. Have the same trouble with cherry tree. WILLIAM HAFFLER.

Beverly, N. J.

The twigs indicate a bad state of affairs, without affording a clue to the cause of all the injury. One of the leaves shows leaf curl. If cultivated and fed well, trees will grow out of that. The twig with gum exuding appears to have been injured by some insect. Then other twigs appear to have been caused by some fungus attack. You should cut off and burn all decayed parts, and then spray your trees with Bordeaux mixture, and continue spraying at intervals of a few weeks until the fruit is of full size. I do not think anything else can be done at this time.

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Horticultural Notes.

Pink Dogwood.—Almost everyone knows of the ordinary white dogwood. Those who have not seen the pink variety have no idea of its beauty. It is grand.

Bark Louse.—The apple tree bark louse is also found on the euonymus, a flowering bush. Whale oil soap, kerosene or some similar greasy compound fixes it.

Forest Tree Seeds. — Seeds of forest trees are better sown in beds than broadcast, in the majority of cases. When the seedlings are a year or two old transplant them to permanent positions.

Gooseberries. — If foreign gooseberries are set in a partially shaded place they do almost as well here as in their own country. There is too much heat for their well doing when in the full sun.

Flowering Almonds are old-time favorite shrubs. The double white and double pink are the sorts. These and the double flowered peaches are among the most valued shrubs or trees of early spring.

Weigelas. — No prettier shrubs than wiegelas could be named for spring blooming. The colors run from white to rose. A dozen or more varieties are in cultivation. They flower towards the close of May.

Filberts like to have a free space in which to develop, yet prefer a partially shaded one. The catkins are the male flowers, the small pink ones below them, the female, or nut bearing ones.

A Good Hedge.—As an ornamental and a partly defensive hedge, there is no question of the California privet leading everything else in the North, though not hardy in the colder Northern States. No matter how old the hedge, if necessary to cut it down it sprouts afresh, more vigorous than ever.

Pear and Cherry Trees. — Both the pear and the cherry could be planted near a dwelling where shade is required, their upright character of growth fitting them for the position. The apple is of too rounded an outline for such a place, but further away it would be in place and is as good for the purpose as many an expensive shade tree.

Borers.—Be on the lookout for borers in fruit trees. Go over your trees in June and again in September, cutting out all found. It takes but a short time to protect trees when visits are made to them twice a year.

Layering Shrubs. — Very many shrubs and trees are raised by layering, by nurserymen, and anyone could increase them in the same way. Bend the branches under ground in June, or as soon as the new shoots are of sufficient length. By fall they should be well rooted.

POULTRY.

This department is under the editorial charge of A. F. Hunter. All letters, inquiries and requests should be addressed to him at the Practical Farmer office, P. O. Box 1317, Philadelphia.

There is Profit in Good Poultry.

The farmer who has good poultry to sell this year will have no reason to complain of the price he receives for it, and will realize that it pays well to have pure bred stock. When in Chicago the last of April, we heard of a case that well illustrates the point. An Illinois farmer had some Barred Plymouth Rock hens that he did not want to keep through the summer, and as a neighbor wanted to buy some hens he offered to sell him these at seventy-five cents apiece. The neighbor thought that was a pretty steep price for "hens," said he could buy hens of farmers for fifty cents apiece, and finally offered our friend sixty-five cents apiece for the Plymouth Rocks. The offer was not accepted, the hens were cooped up and shipped to a Chicago commission dealer and as they struck a fifteen cent market and weighed over seven pounds apiece they netted the owner $1.07 after commissions and freight were deducted. Our friend's neighbor was ignorant of the value of good birds. He thought "a hen is a hen," and that a four or five pound "scrub" hen off a farm was just as good as our friend's thoroughbred Plymouth Rocks; and our friend actually received $1.07 apiece for birds he had offered to sell there at home for seventy-five cents apiece. Quite a difference there when one has a hundred or two hundred birds to sell! And every P. F. reader ought to have at least a hundred good hens to sell each summer.

A capital illustration of the profitableness of good poultry is given us in the excellent article by Prof. Soule, of the Tennessee Experiment Station, in the P. F. of May 9th. True, the article is on beef cattle, but the title is "The Value of Quality," and there is precisely the same increased value in good quality poultry as in good quality steers. Prof. Soule tells us the scrub steer shrank 60 per cent. of his live weight in dressing and the good steer only shrank 40 per cent. in dressing. In that difference alone there is a very great difference in profitableness—to either sell or buy. The difference was not all in the waste of dressing, however. The forequarters of the scrub steer actually weighed more than the hind quarters, and it is in the hind quarters that the choice cuts are found, and for which high prices are paid. The difference in value is explained by Prof. Soule as follows: "The hind quarter, the loin, the rump and round produce not only the best quality of meat, but the meat that brings the highest price. In other words, should the fore quarter bring 5 to 6 cents the hind quarter would bring from 8 to 10 cents at wholesale. In this case the retail butcher would obtain from $10 to $15 more for the meat of the hind quarter, whereas, in the case of the poor steer the fore quarter would bring in quite as much as the hind quarter. It is quite evident that the poor animal is thus not so profitable to the butcher as the good animal, while infinitely less profitable to the owner. On examining the hind quarter, or, for that matter, the whole carcass of the good steer, the meat will be found to be well marbled; that is, the fat and lean well intermixed. The development of the loin and sirloin, and, in fact, the whole hind quarter, is very much greater. The meat covers every part of the bone and swells out and spreads over it, as it were. It has a rich red color, an evidence of a healthy and well nourished animal. When cooked it has a fine, rich flavor and an enticing tenderness. It is the kind of meat to make red corpuscles, to leave a sweet taste in the mouth, and make a man happy all day long."

Doesn't that excellently well explain the difference in quality between good beef and poor beef? Just that same difference in quality is seen in good poultry and poor ("scrub") poultry. The market hasn't yet reached the point of discriminating in quality of live poultry and pays the market price for all alike. Our Illinois friend's Plymouth Rock hens realized fifteen cents a pound, and another farmer's "scrubs" would have realized the same price per pound that day; but the Plymouth Rocks weighed over seven pounds apiece, whereas the average scrubs usually weigh four or five pounds apiece; the latter would net the shipper 60 to 75 cents apiece and the pure breds netted our friend $1.07 apiece. There would be quite a number of dollars difference on a hundred birds, and every farmer ought to have a hundred birds to sell each year. The difference, however, is not all in the pounds of meat; the difference in number and quality of eggs is another element of greater profit, as the good birds will lay from a third to a half more eggs than the scrubs and the eggs are larger, of better color, and in some markets are bringing a better price. For example, there has been a good deal of interest in good poultry in and about the town of Fergus, Ontario, and almost all the farmers thereabouts have Plymouth Rocks or grades having a strong admixture of P. Rock blood. As a result the eggs from that section average of better size and color, and are eagerly sought by the Toronto dealers, who gladly pay a cent a dozen premium for them. When we realize that not only do we get from a third to a half more in number of eggs and that the eggs are larger and of better average color, but that we also get two or three pounds more of meat and that the meat is of better quality, we can see that it pays well to keep thoroughbred fowls.

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Poultry Queries.

The Scratching Shed House.—S. A. V., Jerseyville, Ill., writes: "I see in the P. F. of March 23rd, 1901, the plan of a continuous scratching shed house, with alternating pens for roosting and curtained-front sheds for fresh air and exercise. I want to have such a poultry house built. I want to keep about 300 hens through the winter, and want to let the hens run out when it is nice weather. Could we keep 100 in each pen and scratching shed? I thought of having the house built 90 feet long by 20 feet wide, and have a 3-foot wide alleyway on north side, and make three roosting pens and three sheds. I want to ship my eggs to New York, where they pay the most for eggs. Some shippers hire a man and team to go around and buy eggs and then ship them to New York; I thought if they could pay a man and team and then make money it would pay me to ship mine if I kept 300 hens next winter. We keep the Barred Plymouth Rocks and think they are the best all around chicken." You are decidedly wrong in your plan of a house 90x20 feet. It will cost no more to build a house 180x10 feet, and give you a much better planned house. You will then have ten roosting pens 8x10 and ten scratching sheds 10x10, and by putting thirty birds in a pen and shed, will house 300 in the house. The plan as given in the P. F. makes a warm, snug roosting room and a shed open to the sun, and every part of such a house is light and airy. Your plan would need to have a double pitch roof, which would enclose cold air, and the back parts of both pens and sheds would be dark and cheerless. Sunshine and fresh air are most important factors in poultry keeping, and you get them in perfection in the 10x18 pens and sheds as given in the plan. It might pay you better to ship your eggs to Boston than to New York, as Boston prices average a little better than the larger city. Then, too, Boston pays a premium on brown eggs and New York on white eggs; you say you have Barred Rocks and they lay brown eggs. Ship good, clean brown eggs to Boston and you will get good prices for them.

Kaffir Corn and Broom Corn Seed.—J. N. Howland, Windsor, Mo., writes: "In the P. F. for March 21st a correspondent asks what is the value of Kaffir corn and broom corn seed for feeding chickens. After ten years' experience I am satisfied that Kaffir corn is almost equal to wheat as an egg ration, but broom corn seed is the most nearly worthless feed I ever tried. Hens will eat some of it if they are starved to it, but it barely keeps them alive, as I found by dear experience. I think Kaffir corn is better than sorghum seed as a feed. The Poultry Column of the P. F. is very valuable to me." [Thank you; come again.—ED.]

Soft Shelled Eggs.—Best Layers.—E. G. Leaman, Manorville, N. Y., writes: "Will you please answer the following questions in the P. F.? Why do my hens lay soft shelled eggs? I have 25 hens and I find, almost every morning two soft eggs in the henhouse on the ground. I feed them two quarts bran, one quart middlings, two quarts oats and one quart corn a day. They get plenty oyster shells but not much grass. I am going to sow some grass. 2. I would like to buy some full blooded Leghorns; which are the best layers or winter layers, the Brown or Single Comb White Leghorns?" 1. The soft shelled eggs are due to the hens that lay them being out of condition, because of imperfect food ration, lack of healthful exercise and poor care generally. Have the birds had any green food through the winter? Have they had any meat food? Do they have grit to grind the food? Oyster shells are not grit; they are to supply shell-making material. In winter when they can't get fresh grass they should have steamed cut clover, or cabbages, or mangel or sugar beets; anything in the vegetable line almost. And they need meat of some kind. Write D. W. Romaine, 124 Warren St., New York, for a sample of his Boiled Beef and Bone. 2. You will probably find the Single Combed White Leghorns the better layers of the two varieties you name; they are more generally bred and less fancy bred than the Browns.

Indigestion. — C. D. Ferguson, Whitesboro, N. Y., writes: "My young chickens are not doing well. They appear to be smart when first hatched, but in a week or so begin to fail; they have very little appetite, seem to be weak and stagger. I give them table scraps, boiled oats and wheat, some corn meal and plenty gravel. Have always raised chickens and never had trouble of this kind before." Your description of the trouble is so meagre it is difficult to diagnose the case, and you do not mention whether the chicks are in a brooder or under hens. The difficulty seems to be a form of indigestion caused by too much cooked food; the boiled wheat and oats would be a severe tax upon the digestive organs and liver. You would have better results with a food that was chiefly seeds and dry grain, the latter cracked corn and cracked wheat. The corn must be finely cracked. Is the gravel sharp so that it will grind the food?

Chicks Die of Indigestion. — A. A. Roshon, Baltimore, O., writes: "We have been trying to raise chickens. Last summer we hatched about 300 chickens and raised but 45, the rest dying from one to two weeks old. They would begin to mope and act like cholera, and in a few days they would die. We feed them oat meal, yolks of hard boiled eggs, dry bread crumbs, sand, and give them plenty of fresh water. We feed them about five times a day. We have had but one hen to die with the cholera in the last two years, and they all seem healthy. We thought early chickens would do better, but we see no difference. We keep them where it is perfectly dry. We would be very glad if you would tell us what is the matter and how to treat them." Your description of the trouble is very meagre, but it is evidently a form of indigestion, due to improper feeding, lack of green food, lack of good, sharp grit, and lack of all meat food. Your yolk of hard boiled egg is too compact, too solid a food, unless greatly reduced by four to six times the amount of bread crumbs thoroughly mixed with it. We do not believe you have cholera; that is a very rare disease—true cholera. In twenty years' experience as a poultry writer, and visiting thousands of poultry raisers in this country and Europe, we never saw a case! The disease commonly called cholera is almost always acute indigestion or a severe dysentery caused by a defective food ration and lack of green food and grit. No "remedy" will help your chickens, the only remedy is "prevention," by adopting reasonable methods of feeding, supplying green food and sharp grit and a little meat food. You can easily see that it doesn't pay to hatch 300 chicks and raise but 40. You ought to have raised at least 250, and could have done so with the right methods; see what a profit there would have been in the other 210! It has been a costly lesson for you, but you can do better by right methods in the future.

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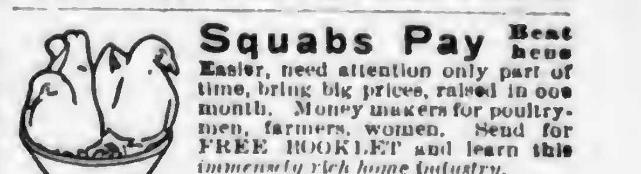

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Wet and Dry.

There never was a better time to demonstrate the value of the dust blanket in keeping the moisture in the soil, if conditions are elsewhere as they are with us. March, April and early May were uncommonly wet, but since the first week in May we have not had a drop of rain, and land that was plowed too wet is now as cloddy as one could imagine, and these big clods keep the ground open and help it to dry out fast. With soil in the proper condition when the rains ceased, and the cultivators kept running shallowly there is still plenty of moisture just below the blanket of finely pulverized soil. There was a great abundance of moisture to start with, and it simply depends on the way the land is worked if it is kept there. Those who are hilling up corn or cotton with big plows are simply aiding the drought to damage the crop. A drought following a wet spring is always more disastrous than a uniformly dry spring, for so much of the land is plowed when it should not have been, and this cloddy land is in a shape that no dust blanket can be made and the dry weather will play the mischief with the crop. The lesson is to wait patiently in a wet spring, for nothing is gained by plowing land too wet.

Sand Vetch and Alfalfa.

A lady, passing our field, said: "What a pity that beautiful field of wheat is so full of partridge peas." She was astonished when we told her that we had sown the partridge peas with the wheat to make hay. The beautiful purplish blue flowers of the sand vetch are very similar to a native vetch which here goes by the name of partridge pea. The idea of making hay of wheat was something new to our lady friend. We wish that all of our readers could see that field. The vetches have climbed to the top of the wheat and the mass stands shoulder high to us, and we are over six feet. It was mown the third week in May and the land at once will be broken and sown in cow peas for another hay crop before putting it down in alfalfa in the fall. We estimate that we shall get, if the season is favorable for the peas, fully four tons of good hay per acre from the two crops, and then hope to get a stand of alfalfa that will cut hay next summer. The Bulletin No. 104 of the Kansas Experiment Station has some very pretty plates showing a heavy mowing of hay May 29th, 1901, from alfalfa sown the fall before, and the conclusion in the bulletin is that in the States east of Kansas fall sowing should be the rule. It certainly should be the rule in the South.

Oleomargarine.

It seems to us that the anti-oleo law is a dead failure, either as a law or in its enforcement. We see "Jersey Butterine" on sale, which is claimed to be uncolored, and hence pays the smallest tax. But it is as yellow as any good butter should be. In fact, it is rather more attractive than the over-colored butter the dairymen are putting on the market. The grocers, so far as we can ascertain, are stamping it and selling it for just what it is, but when the hotel men and the restaurants get it there is no stamp on the pats they put before their guests, and we see it constantly used as pure butter in these places. It looks as though the dairymen are beaten, and that the only resource they have is to make their brands known to the people who are willing to pay an extra price for really fine butter. So long as grocers sell butterine and oleomargarine as such and at a lower price than pure butter, and thus give the purchaser his choice, we cannot see that any law will alter it. The only people who are really palming off the spurious article for butter now seem to be the hotel and restaurant keepers. The only way to reach them would be by a law requiring them to put up a sign at every table announcing the fact that the butter used is oleomargarine and attach a heavy penalty to its use without such signs. Patrons of the hotels, as a rule, want pure butter only, and as a rule they pay enough to get it. Now that "uncolored" oleo is of such an attractive color, it is the hotel men who need looking after.

High and Low Grade Fertilizers.

The Cream of the Bulletins this week is well worth studying. Farmers as a rule are too apt to look simply at the price asked for a fertilizer, and fail to study the composition. All that is of value in any fertilizer mixture is the amount it contains of nitrogen, phosphoric acid and potash. The bulletin reviewed shows very plainly that in buying the low grade, low priced articles the farmer is paying more for all that is worth anything in it than if he bought the higher grade goods. Then, too, he has to freight more of the low grade goods to have the same effect, and this freight could be saved by buying the high grade goods in smaller quantity. But the New York Station, in common with the Stations all over the country, advises the farmer to buy the materials and mix them for his needs for various soils and various crops. And this is fast getting to be the rule with thoughtful farmers everywhere that fertilizers are used. Anyone with a barn floor, a shovel and sand screen can mix his fertilizer as completely as the best factory in the land, and can save very considerably in the cost of the article. Talking to a meeting of farmers lately, we gave them a formula for a high grade tobacco fertilizer. One man rose and asked how much dirt should be added to the formula. Farmers are generally in the notion that some inert material must always be put in. There is plenty of material of this sort naturally in any of the materials used to make a high grade fertilizer. Fillers are used by manufacturers to make a low grade mixture to sell at an apparently low price, while getting a high price for all the plant food the mixture contains. As, Dr. Van Slyke has shown plainly, all the plant food in the low grades costs more per pound than in the high grades, and all cost far more than they will when combined by the farmer in a home mixture.

Agriculture and Boards of Agriculture

In some States, notably in Pennsylvania and Kansas, the meetings of the State Boards of Agriculture are made great Farmers' Institutes, at which matters of practical value to the agriculture of the State are discussed and speakers invited not only from the State, but from other States, to present papers of value to the farmers present. In other States these Boards meet apparently for the sole purpose of going over the finances of the Board, and hold meetings of the Board members only. Where the meetings are held for public discussion and the reports published and distributed among the farmers of the State there will always be an influence on the farming of that State that can never be had where the Board meets simply for business of the Board alone. In some States, as in North Carolina, the lack of general agricultural matter in the annual reports is partly made up by the publication of a monthly bulletin which endeavors to bring matters of practice to the attention of the farmers. We think that this is a good plan, but while doing this much is it well to leave the other undone? An annual meeting of the State Board of Agriculture, to which all the farmers of the State are invited, purely for practical discussion of matters of general interest to the farmers of the State can be made a great educational force in the State. In South Carolina, where the Board of Agriculture is the College of Agriculture, they have an annual gathering of the farmers at the College, in August, when the rooms of the students are vacant and the assemblage can be entertained and lodged there. In Tennessee the Convention of East Tennessee farmers at the University is a very popular and instructive meeting and has done much in the building up of the agriculture of that part of the State. There is no reason why, in every State, during the college vacation the Board of Agriculture or the College itself should not gather the farmers of the State together and thus not only help the farmers but show to them what the College is doing.

Where to Feed Trees.

The Rural New Yorker has a series of letters from orchardists who generally agree that the place to put manure and fertilizers for trees is out beyond the branches, where the feeding roots lie. But the editor seems to think that it is all guess work as to where to feed a tree. We are of the opinion that if friend Collingwood will carefully take up a young tree he will find that the fine root fibres, which alone bear the absorbing root hairs, are nearly all out beyond the space to which the branches extend. These root hairs are produced only near the tips of the youngest rootlets, and are constantly dying off and new ones being produced as the rootlets extend, so that the roots are ever foraging in fresh soil, while the older roots remain simply to sustain the tree and to serve as conduits for the sap water collected by the root hairs. As the food for growth of the tree must be dissolved in the soil before the fine root hairs of a microscopic character can take it up, it is evident that the food must be presented in that part of the soil where these root hairs are being formed, and not back near the trunk where only the supporting roots are. Putting manure around the stem of a large tree is like putting a bag of oats out of reach of a horse and asking him to help himself. In like manner, the making of tall stems to trees with the idea of getting under them for the cultivation of the tree is simply nonsense. The tall stem is a disadvantage in furnishing leverage for the wind to blow the tree over, in making it more inconvenient to gather the fruit, and more inconvenient to do the needed pruning. As the feeding roots are out beyond the spread of the branches there is no need for cultivating up under the tree and no need for manuring there. Then as the trees spread so as to take the whole ground, the best thing that can be done for them is to put them in grass and then feed the grass all over the land and mow it like a lawn for mulching the trees, never making hay or pasture of the orchard, but restoring to the grass what the fruit takes away annually. Proper culture in grass is the height of good culture for orchards.

The Cream of the Bulletins.

New York Agricultural Experiment Station, Geneva, N. Y. Bulletin No. 230. Some Facts About Commercial Fertilizers in New York State. By L. L. Van Slyke.

The bulletin opens with the statement that the farmers of the State of New York expend for plant food in the form of commercial fertilizers annually about four and a half millions of dollars, which sum is exceeded by but two or three other States in the country. Many dairy farmers depend mainly or entirely on their domestic accumulation, but all who most profitably and continuously grow cereals, hay and forage crops and market garden products, and crops under glass are compelled to use liberal quantities of commercial fertilizers. Long Island, being largely taken up with garden crops, naturally uses the largest amount or nearly a million and a quarter of dollars worth, while other counties run from $110,000 to $214,000 annually. Twelve counties use about one-half the total amount consumed in the State. A very large proportion of the fertilizers sold are what is known as complete fertilizers or those having a due proportion of nitrogen, phosphoric acid and potash, and these vary greatly in composition and price. The bulletin calls attention to the differences in cost of plant food found in the commercial fertilizers sold during 1902. Four grades are noted, the low grade, medium grade, medium high grade and the high grade. Of the samples collected 25 per cent. were of the low grade, 34.3 per cent. were of the medium grade, 23.7 per cent. were of the medium high grade and 17 per cent. were of the high grade. That is, of the fertilizers sold in 1902 nearly 60 per cent. was medium or low grade in character. Only about one-sixth could be classed as strictly high grade. There is a general tendency among farmers to buy complete fertilizers that are not even medium high grade in character. The low grade averaged 12 per cent., total plant food, the medium grade 14.28 per cent., the medium high grade 17.37 per cent. and the high grade 19.60 per cent. of total plant food. The amount of phosphoric acid does not vary much in the different grades, while the nitrogen and potash increases in the higher grades and the increase in the total amount of plant food in the high grades is due to the increase in nitrogen and potash. The average difference between the commercial valuation and the selling price is for the low grade $8.58; medium grade $9.15; medium high grade, $6.15, and high grade $5.10. Of the low grade goods the lowest selling price was $16 and the highest $34, a tremendous difference when we consider that there was a difference of not more than $6.50 in their actual plant food value. In all grades there is a disproportionate difference in the value of the plant food contained in them. The difference is less in the high grade goods, but still unreasonably great. The excess of selling price over the commercial value is greater in low grade than in high grade, or the high grade goods sell on an average nearer to their actual plant food value than the low grades do. The same brand of goods is sold by different agents at prices differing as much as $5 to $8 per ton under circumstances which do not seem to justify it. The average cost of plant food in the form of nitrogen varied from 26.3 cents in the low grade to 19.6 in the high grade. Phosphoric acid averaged 8 cents per pound in the low grade and 6 cents per pound in the high grade. Potash averaged 6.8 cents per pound in the low grade and 5 cents in the high grade. The cost, therefore, of one pound of plant food is greatest in the low grade and the least in the high grade fertilizers. In general the higher the grade of the goods the lower is the cost of the plant food in them. The cheapest form of phosphoric acid is acid phosphate. The cheapest form of nitrogen is nitrate of soda. The cheapest form of potash is muriate of potash. Farmers are advised in buying ready made fertilizers to buy only high grade goods. But they are advised to purchase the unmixed materials and mix their own fertilizers, or several farmers can unite and purchase the materials and get a manufacturer to mix them for them. The law of New York requiring a license fee of $20 for each brand offered has decreased the number of manufacturers. The number of brands found below the guarantee has steadily diminished, and the average selling price has also gradually decreased, and also the difference between the selling price and the commercial valuation.

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Our $1.00 Seed, Plant or Bulb Due Bill.
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COMMERCIAL

Philadelphia, May 30, 1903.

WHEAT.—

No. 2, red, spot and May	80	@	80½
No. 2, Penna. and Del.	81	@	81½

CORN.—

No. 2, spot and May	50¼	@	50½
No. 2, yellow, on track	54	@	55

OATS.—

No. 2, white clipped	41½		
No. 2, white clip, choice	42		

LIVE POULTRY.—

Receipts were moderate and there was a fair outlet for desirable stock at steady prices.

Fowls, hens, per lb.	14½	@	15
Roosters, per lb.	10		
Spring chickens—			
1½ to 2 lbs., per lb.	25	@	28
Smaller sizes, per lb.	18	@	22

DRESSED POULTRY.—

There was a good demand for desirable fresh-killed stock, and the market ruled firm under light receipts. Frozen poultry were in fair supply and demand at former rates.

Fresh killed fowls, choice	13½	@	14
Fresh killed fowls, average	12½	@	13
Fresh killed broilers, nearby	35	@	40
Fresh killed broilers, West	30	@	33
Frozen fowls, average	12½	@	13½
Frozen broilers, Western	19	@	21
Frozen roasters, choice	16	@	17
Frozen turkeys, young toms	18	@	19

BUTTER.—

Receipts, 2,800 tubs, 1,626 boxes. Receipts of Western creamery were more liberal, and indications point to increasing arrivals later in the week. As a consequence, buyers were disposed to operate with more caution, but holders maintained a firm position on extra goods and refused to sell below 22½c. The quality of the arrivals was generally fine, and buyers who were looking for cheap creameries had difficulty in getting them. Imitation creameries and ladle-packed were also scarce and fine goods were wanted. There was a fair demand for prints, but receipts were liberal, and some dealers complained of surplus stocks. Holders, however, were unwilling to clean up supplies of fine goods at concessions.

Western creamery, extra	22½		
Western creamery, firsts	21½	@	22
Ladle packed	14	@	16
Prints, nearby, extra	23	@	24
Prints, nearby, firsts	22		
Prints, garlicy	19	@	21
Prints, Western	20	@	23

EGGS.—

QUOTATIONS AT MARK.

Receipts, 9,241 crates. Many of the receipts went into refrigerators for later use, and offerings in the open market were only moderate. There was a good demand for choice stock, prices of which ruled firm at the late advance, but invoices showing the injurious effects of the recent hot weather had to be cleaned up at concessions.

Nearby fresh, ret'bl crates	15½	@	16
Western, choice, free cases	16	@	16½
So. Western do do	15½		

Recrated, 1@2c. above wholesale prices.

CHEESE.—

Receipts, 668 boxes. The market for new goods was a shade lower under weaker country advices and more liberal offerings to arrive. Trade was quiet. Fine old full-creams were scarce and firmly held.

N. Y., f. c. small—			
Old, fancy	14½	@	15
New, choice	12	@	12½
Fair to good	11¼	@	11¾
State, part skims, prime	7	@	10

VEGETABLES.—

Supplies of old potatoes were moderate, but demand was light and prices were a shade easier. New potatoes and vegetables were in fair supply.

Beans, So., per ½-bbl. bas.	1.00	@	1.25
Beets, So., per 100 bun.	2.00	@	3.00
Cabbage, So., bbl. crate	1.25		
Cucumbers, Fla., per crate	1.25	@	2.25
Cucumbers, per basket	1.50	@	2.50
Eggplants, Fla., box	1.50	@	3.00
Peas., So., per bu. bas.	50	@	75
Peas., So., ½-bbl. bas.	75	@	1.25
Squash, So., per 1-3-bbl. bas.	75	@	1.25
Tomatoes, Florida, crate	1.25	@	2.00

POTATOES.—

White, Pa., per bu.	70	@	73
do New York, per bu.	65	@	68
do Western, per bu.	55	@	65
do Southern Rose, pr., bbl.	2.75	@	3.00
do do medium, per bbl.	2.75	@	3.00
Sweets, Jersey, per basket	65	@	70

BEANS AND PEAS.—

Beans, marrows., H.P., bu.	2.65		
Pea beans, H. P., 1902	2.25		
Red kidney, 1902	2.90	@	3.00
Scotch peas, per bu.	1.76		
Green peas, per bu.	1.65		

COTTON.—

Demand from spinners was light and prices further declined 20 points under lower New York advices.

Cotton, per cwt. 11.70

FEED.—

Bran, bulk, winter, per ton	19.00	@	20.00
Bran, sacked, spring	19.00	@	20.00

HAY AND STRAW.—

Timothy, N. Pa., choice, l'g.	21.50	@	22.00
do Western	21.00	@	21.50
Timothy, mixed Western	14.00	@	17.00
Straw, straight rye	15.50	@	17.50
Wheat	10.50	@	12.00
Oat	8.50	@	10.00

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle steady.

Extra steers	5¼	@	5½
Good steers	4¾	@	5
Medium steers	4½	@	4¾
Common steers	4¼	@	4½

CALVES.—

Veal calves fairly active.

Extra calves	7	@	7½
Fair to good	6	@	6½
Poor and common	4½	@	5½
Grassers	3	@	4

HOGS.—

Hogs quiet and lower.

Fat hogs, Pa., Del. & Md.	6½	@	8
Fat hogs, Western	8½	@	8¾

SHEEP.—

Sheep lower, spring lambs steady.

Sheep, extra	4¾	@	5
Sheep, good	4¼	@	4½
Sheep, medium	3½	@	4
Sheep, common	2	@	3
Lambs, spring	5	@	8¼

* * *

New York, May 30, 1903.

WHEAT.—

Wheat futures during most of the day were active and showed some strength, but closed weak and lower. The favorable tenor of the Government crop report was the main factor in weakening the market. The report showed that wheat is doing well in all sections about which there has been any doubt, and it was not unfavorable to corn. There was also some realizing by longs and shorts did not seem to take much interest in trading. The opening was stronger and higher on better early cables and reports of some damage in the West. Chicago receipts were 84; Northwest carlot receipts were: Minneapolis, 116, against 77 last week and 89 last year; Duluth, 33, against 32 last week and 10 last year. There was still some manipulation in the market on May deliveries here and at the West. Armour was said to have delivered 1,000,000 bushels of No. 2 red at Chicago. Seaboard receipts were 340,911 bushels, with exports of 248,177 bushels. There was a report from St. Louis that Cleage, who made an unsuccessful effort in corn last winter, now has his followers in July wheat, and the Western markets were closely watched.

No. 2, red	83½		
No. 1, Northern Duluth	88⅝	@	89⅛

CORN.—

Corn futures did not share in the weakness of wheat at any time during the day. While the market was at no time active, there was sufficient trading to keep prices from going off. The crop report was ignored to some extent in view of private dispatches that in many sections of the corn belt the weather was still unfavorable. A Des Moines, Iowa, dispatch, which was posted on the bulletin board, was especially unfavorable. The close was strong. Early there was little activity, few trades being made until late in the day. The disposition seemed to be a waiting one. Chicago carlot receipts were 482, with 445 estimated for tomorrow. Cables were again higher and had much to do with maintaining a firm undertone. There was more talk of the possibility of a big railroad strike and this led to covering by timid shorts. Any railroad trouble at present would demoralize the market. Country offerings were light compared with the last few weeks, and there was not much offering of futures by the cash interest. Seaboard receipts were 203,268 bushels, with exports of 98,947 bushels.

No. 2	57½
No. 2, white, f. o. b.	55
No. 2, yellow, f. o. b.	55

OATS.—

There was an easy but dull market for oats futures early, with more strength shown toward the close. The firmness of corn, with the continuation of the drought and the belief that there will be a short hay crop helped the market.

No. 2, white	42
No. 2 mixed	39½
No. 3, white	41½

HAY AND STRAW.—

Offerings were more moderate and the market was generally firmer.

Timothy, large bales, cwt.	1.05	@	1.10
No. 1	95		
Clover, per cwt.	55	@	65
Straw, long rye	65	@	80
Straw, oat	45	@	50

BUTTER.—

Creamery, extra, per lb.	22		
Creamery, firsts	21	@	21¼
Creamery, ordinary	18	@	20½
State dairy, fresh, tubs—			
Fancy, per lb.	21		
Firsts, per lb.	19½	@	20½
Ordinary, per lb.	16	@	19
West. Imitation Creamery—			
Finest, per lb.	19		
Good to prime	17	@	18
Western Factory—			
Finest	15½	@	16
Good to prime	14½	@	15
Packing stock, solid packed	13	@	15
Rolls, fresh, com. to prime	13	@	15

NEW CHEESE.—

State, f. c., small, choice	11½		
Fair to prime	9	@	11
Large colored, choice	11⅛		
Large white, choice	11		
State, light skims—			
Choice	9		
Part skims, prime	6½	@	7
Full skims	2		

EGGS.—

QUOTATIONS AT MARK.

State, Pa., and nearby—			
Fancy selected white	18½	@	19
Fresh gathered, firsts	17	@	17½
Western—			
Storage packed, firsts	17		
Fresh gathered, firsts	17		
Kentucky, seconds	15		
Tennessee and other Southern—			
Seconds	14½		
Western, dirties, fresh gath.	13½	@	14

LIVE POULTRY.—

Spring chickens, nearby, lb.	25		
Western, per lb.	25		
Southern, per lb.	20		
Fowls, selected, heavy, lb.	14		
Roosters, per lb.	9		
Turkeys, per lb.	10	@	11
Ducks, average, pair	70	@	1.00
Geese, average, per pair	90	@	1.25
Live pigeons, old, pair	35		
Live pigeons, young, pair	25		

DRESSED POULTRY.—

FRESH KILLED ICED.

Turkeys—			
Young hens & toms	15		
Fair to good	13	@	14
Old	14	@	15
Broilers—			
Phila., 3 to 4 lbs. pair, lb.	35	@	40
State & Penna., 3 to 4 lbs. to pair, per lb.	25	@	30
Balt., d. p., 2 lbs. per pair	40	@	60
Western, d. p.	28	@	30
do scalded	23	@	25
Fowls, West., scald., sm., fcy	12½		
Dry picked, small, fancy	12½		
Heavy	12		
Southern & So. Western, d.p.	12	@	12½
Scalded	12		
Spring ducks—			
Long Island, per lb.	19	@	20
Eastern, per lb.	20		
Jersey, Pa. & Va., per lb.	18		
Squabs—			
Prime, large, white, doz.	2.75		
Mixed, per doz.	2.25		
Dark, per doz.	1.50		

FROZEN.

Turkeys—			
Young hens & toms, No. 1	19		
Roasting chickens, large and soft meated	16	@	17
Average, No. 1	15	@	15½
Broilers, d. p., No. 1	19	@	21
Broilers, scalded, No. 1	16	@	18
Capons, choice, heavy	20	@	22
Medium size	18	@	19
Ducks, No. 1	16	@	18
Geese, No. 1	11	@	12

APPLES.—

No. Spy, bbl.	1.50	@	2.25
Russet, per bbl.	1.25	@	2.00
Ben Davis, per bbl.	1.25	@	2.00
Baldwin, per bbl.	1.25	@	1.75

GREEN FRUITS.—

Cherries, So., qt.	10	@	15
Blackberries, N. C., qt.	10	@	15
Huckleberries, N. C., qt.	15	@	20
Gooseberries, qt.	5	@	6
Oranges, Cal., blood, box	2.00	@	2.50
Oranges, Cal., blood, ½ box	1.35	@	1.75
Oranges, Cal., navels, box	1.50	@	3.15
Oranges, Cal., seedlings, box	1.50	@	2.40
Pineaples, Fla., 24s-36s	2.25	@	2.50
Strawberries, N. C., qt.	2	@	10
Strawberries, Del. & Md., qt.	2	@	9
Strawberries, E. Shore, qt.	2	@	10
Strawberries, So. Jer., qt.	3	@	10
Muskmelons, Fla., crate	1.50	@	2.50
Watermelons, Fla., each	30	@	75
Peaches, Fla., carrier	2.00	@	2.50

VEGETABLES.—

Weakness developed in poor qualities yesterday but fancy stock was active and firm. The situation is kept firm mainly by unfavorable weather, which prevents rapid growth in nearby districts. Quotations given cover the bulk of the sales.

Asparagus—			
Colossal, per doz.	3.00	@	4.00
Extra prime, per doz.	1.25	@	2.00
Cull, per doz.	75	@	1.00
Beans, lima, Fla., crate	1.00	@	2.00
Beets, Southern, per 100	1.00	@	2.75
Cabbage—			
Fla., new, bbl or bas crate	1.25	@	1.75
N. C., bbl. crate	75	@	1.00
Norfolk, bbl. crate	75	@	1.00
Carrots, old, bbl.	1.00	@	2.50
So., 100 bun.	75	@	2.00
Cauliflower, Nor. bas.	1.50	@	1.75
Corn, green, 3-doz. crate	2.00	@	2.25
Cucumbers, Fla, crate or bas	1.25	@	2.00
Char. or Sav., bas.	2.00	@	2.25
Eggplants, box	1.00	@	3.00
Kale, bbl.	30	@	40
Lettuce, nearby, per bbl.	1.00	@	1.75
Balt., bas.	25	@	35
Okra, carrier	2.00	@	2.75
Parsnips, bbl.	75		
Peas, So., 1-3-bbl. basket	40	@	1.00
Del. & Md., bas.	75	@	1.00
Jersey, bas.	1.00	@	1.25
Peppers, green, Fla., crate	1.50	@	2.25
Radishes, per 100	50	@	75
Rhubarb, per 100 bunches	1.00	@	1.75
Spinach, Balt., bbl.	50		
Squash—			
Fla., white., bbl. crate	1.50	@	2.25
Fla., yel., crookneck, bbl.	1.50	@	2.25
Turnips, white, 100 bun.	1.00	@	4.00
Turnips, Rus., bbl.	1.50	@	1.75
Tomatoes, Fla., fancy, car.	1.00	@	1.25
Onions—			
Hard stock, yellow, bbl.	1.50	@	3.00
Red, bbl.	1.50	@	2.50
Average, red, bbl.	1.25	@	1.75
Yellow, bbl.	1.25	@	1.75
New Orleans, bag	1.35	@	1.50

POTATOES.—

Fla. & Sav. Rose, prime, bbl.	2.25	@	3.00
Chilis, prime, per bbl.	2.00	@	2.75
Charleston, Rose prime, bbl.	2.25	@	3.00
Chilis, prime, per bbl.	2.00	@	2.75
N. C., Rose, prime, per bbl.	2.00	@	2.75
White Chilis, prime bbl.	2.00	@	2.50
Red Chilis, prime, per bbl.	2.00	@	2.25
Southern, culls, per bbl.	1.00	@	1.25
Old domestic—			
In bulk, per 180 lbs.	1.75	@	2.00
Per 168-lb. sack	1.75	@	1.85
Common, per bbl. or sack	1.25	@	1.50
Sweets, Jersey, per basket	1.00	@	1.50
String beans—			
Wax, basket	50	@	2.00
Green, basket	50	@	1.50

WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.

XX and above	30@31
X	27@28
Medium	29@30
Quarter blood	28@29
Common	25@27

UNWASHED (light and bright.)

Fine	19@22
Medium	21@22
Quarter blood	21@22
Coarse	19@20

UNWASHED (dark colored.)

Fine	16@17
Fine medium	17@19
Medium and quarter	18@20
Coarse	17@18

COMBING AND DELAINE FLEECES.

Washed fine Delaine	31@33
Washed medium	30@31
Washed low	28@29
Washed coarse	27@28
Unwashed medium	22@23
Unwashed quarter blood	22@23
Braid	20@22

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Editorial Chat.

We have been most generously remembered by many of our floral friends this spring. Such numbers of choice plants as have found their way into the "sanctum." Two Florida friends sent packages of the choicest roses—Crimson Rambler, but don't you tell!—a palm, begonia, geraniums, jasmines, honeysuckles, other roses, fine varieties, chufas, peanuts, cotton, velvet beans for planting—almost everything that Mrs. Pleas, of Indiana, did not send. The neighbors say: "well, ain't you lucky?" Yes, and some other flower seed from Ellen Kinney. We thank you all so much. Such plants are worth a hundred fold more than those bought at a greenhouse, they have little heart histories that endear them. We have laughed not a little over the fears of the H. C. that if we once got a cinnamon vine that we would be overstocked. We regret to say that instead of being over-burdened with tubers, the ones we had died. Suppose they winter-killed. Did we say we had no fear of being overrun?

* * * * * * * *

Since writing the above a dear friend at Sparta, Wis., sent five "high bred" roses. She had previously donated three Moss roses—"the mossiest of the moss," as she assured us. When we think of the patient persistence of the friends for all these years, sending seeds and cuttings and roots for that H. C. garden we used to dream of, we feel deeply grateful. By another season we anticipate that garden will be a reality. A slice of lawn has been plowed up, the sod will be killed this year, and then then the floral treasures will be gathered from their temporary corners and put into permanent shape. And then you must all "come see."

* * * * * * * *

The rage for home, farm and town improvement continues to increase. When there is so much to do, however, it takes a long while, especially here at the North, to accomplish much. Unfortunately, too, there is a minority of men interested in the matter. The majority are content to just "do the essentials," as they term it, and let the rest go. "Got something of more importance to do." Ever hear that, sister, when you want a trellis built, a fence mended or removed, a flower border made, a hedge set, a pig sty moved further away, or the lawn mown? But more and more they are falling into line, and once get them interested, they will go to great lengths—some of them. We have a neighbor who keeps his village premises so neat as to give us a feeling as if every day were Sunday, every time we pass there. It always did bring on a fit of blues with us when things are painfully neat, but there is no danger of our place bringing on an attack. Our John is one of the men who, religiously straightening up a place one minute, completely upsets it all the next. But we cannot say much along these lines ourself. Teach the boys and girls to be neat and orderly, with an eye single to the artistic and beautiful.

◆

Tomatoes.

MRS. F. BROADHURST.

To preach a good sermon one must have a good text, and after thinking some time, I have decided that I am better prepared to preach about tomatoes than anything else concerned "in the kitchen."

We buy our seed, if we have not saved it, and start the plants in a box, and move it into the house when it is too cold for it to stay out. As soon as we think it safe from freezing we transplant to the garden. We save tin cans and melt off the tops. Press the can down over the small plant, and the cut worms can't hurt them. When first set out put the tops over the cans to keep the sun from wilting them. When there is danger of frost lay the tops on the cans at night, removing in the morning. Drive stakes about five or six feet tall, by each plant. When one foot high commence tying the plant to the stake. Keep off all the suckers, and continue to tie up as the plant gets larger. By keeping them pruned the tomatoes will be earlier and much nicer. Gather the tomatoes when they begin to redden (by leaving them longer, the plant is weakened), and let ripen in a cool place. Do not let them get dead ripe for canning, but just a uniform red through. Have boiling water and pour over the tomatoes. As soon as scalded enough to loosen the skin, remove from the water, as it makes them soft and they do not keep so well. Have a kettle that will hold half a gallon, put in the skinned tomatoes, set on a quick fire, watch that they do not stick, and boil until heated thoroughly, through and through. Have a tin can on the stove, take a fork and lift the tomatoes one at a time from the kettle to the can. The can will gradually fill with liquor from the tomatoes, and it will only be necessary to put tomatoes into the can (no liquor from the kettle). When the can begins to boil, have a damp cloth, wipe the crease around the top of can carefully. Place the top on. Hold down firmly with the fork handle, and pour hot, melted sealing wax around the crease until there is not a blubber. Still hold the top down and firm the wax with the fingers. Be careful, or you will get burned. The can is now ready to take from the stove. When cold remove to cellar, or closet, or wherever to be kept until ready for use. If the wax is too brittle, put in just a little lard, or tallow. Before frost comes all the green tomatoes should be gathered. Separate the large from the small ones. Spread the former out on a board, or floor, so they will not decay so rapidly. Then you can have ripe tomatoes until after Christmas. Take the small ones, and slice them, throwing away the first and last slices, and to a gallon of sliced tomatoes, add a quart of onions (skinned and sliced). Mix into this a pint of salt. Place in a cotton sack, or cloth and let drain over night. Do not squeeze at all. In the morning put on the stove five pints of good apple vinegar. Add 2½ pounds of brown sugar (some may prefer less), one tablespoonful each of whole cloves, spice, celery seed and broken stick cinnamon. If you have them, cut up two or three green pepper pods with the tomatoes, also about the same amount of horse radish. When the vinegar boils, put the tomatoes that have drained over night into it. Let come to a boil again. Pour into a stone jar and cover securely. When cold it will be ready for use.

To make tomato preserves, use the large ones that were gathered green, and have ripened indoors. Pare them with a sharp knife, as you would apples. Weigh the fruit, cover with the same amount of sugar. Let stand over night. In the morning lift the tomatoes from the sugar carefully. Place sugar on the stove and let boil until the syrup ropes. Then drop in the tomatoes and boil until they are clear. The preserves will be beautiful, and will not sour or sugar.

To bake tomatoes, place in a small baking dish a layer of tomatoes, then bread crumbs, pepper, salt, sugar and butter; then a layer of tomatoes and again the bread, pepper, salt, sugar and butter. Place the butter over the top in shavings until they are covered. Bake in the oven one hour for fresh tomatoes, and 30 minutes for canned tomatoes. They are fine prepared in this way.

Fairfield, Ky.

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Among The Flowers.

ROSIE M. TULL.

Only a few balsams, but what beauties! Most everyone has a few of them. How many are able to associate or think of the balsam as "touch-me-not," or rather the touch-me-nots as balsams? It has been only recently that I knew they were one and the same. Mother and grandmother call them touch-me-nots, so, of course, that was the name by which I knew them. From the nature of the seed pods touch-me-not is a very appropriate name, but I offer no objection to balsam and am glad to know them under both titles, and thought perhaps a few others might not know. In seed catalogues they are known as balsams. They generally need a very rich well worked location, but perhaps it would be of interest, to a few at least, if I would tell about a row of them we had planted along the netting fence which separates the yard from part of the garden. The ground being plenty rich enough, was worked a couple of inches deep with a hoe. A trench was made close to the wire inside of the garden, in which seeds were planted and covered about three-fourths of an inch deep. They received no more attention except weeds were kept pulled out, but the ground was never stirred. They grew to be fine plants and as the season was very favorable, there being plenty of rain, they began to bloom early and were still in bloom when frost came. I never had them to remain in bloom so long, but last season was an exceptional one. They were quite an improvement in the back yard, as they were far prettier than weeds and received but little more attention, as far as labor was concerned. As they were so near the kitchen in full view from the door, I am quite sure they made the work in that department a little more pleasant.

Portulaca, or rose moss, is another of the old-time favorites. It is best to sow the seed in the Autumn, as the plants come up and bloom much earlier than if planted in the spring, as some time is required for them to germinate. There is no difficulty in retaining seed of this plant, when once you have a start, for where the seed is allowed to mature and fall there will many plants spring into life the following spring. The bed may be stirred lightly early the next season, before the tiny plants come up, or may be left unmolested. I prefer to have the surface raked over as the bed looks much nicer and the plants will grow faster, and the stirring retards the growth of the weeds. When once started the plant grows very rapidly and soon covers the bed in a solid mass of stem-like foliage and dainty little flowers, which are very pretty indeed. It is fitted for either masses or borders, as it does not grow very tall. It seems to enjoy best a rich, medium sandy soil, with plenty of sunshine and it is a plant that can be transplanted when quite large, with but little danger of its dying. I have transplanted them when in bloom and they did well. They are also very nice for hanging basket or house pot plant. I presume the plant needs no further description, as most everyone is familiar with its hardiness and pretty, peculiar foliage, and flowers of almost every hue of the rainbow, both single and double.

[Sister, if you have the rose moss, please put a pinch of seed in your next. We used to love it when grandmother had it, but never see any now in or out of a catalogue. Ed.]

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In The Kitchen.

Mrs. A. W. Bowden, Maine, writes: Many women spend the greater part of their time in the kitchen, therefore let it be made as pleasant as any room in the house. In most houses we find it papered with dark paper and painted with anything so long as it is something that "don't show dirt." Last spring I painted my kitchen apple green, which is very light-colored paint, and papered it with light, pretty paper, which harmonizes perfectly with the paint. After the floor had been oiled and pictures, paper rack, a suitable couch and a few other things were added to give a pleasing effect, I sat down and viewed the room with satisfaction. One of the neighbors came in soon after and said: "How pretty and pleasant your kitchen; but you will find that light paint will soil easily."

I find it just as easy to keep light oilcloth clean as dark, so have tacked a piece of light colored oilcloth above the sink to keep the paper from being soiled. I find by dusting the room with a damp cloth, and if there is a spot upon the door, removing it before another comes to keep it company, that my room is kept clean and pleasant.

Some will say, "That woman is making herself unnecessary work." But I say it pays to have the room where the most of your work is to be done, light and cheerful, and everything in harmony. It has an influence which cannot be denied. It is restful and soothing to the tired nerves to have something pleasing meet the eye at every turn. Then don't do your work in that dark, bare and dreary room. Have a couch where you can lie and read a few words while the cake is baking. It will give you something to think about while you wash the dishes or sweep the room, and you will have no time for dreading your work or for unpleasant thoughts about it. It keeps the mind occupied with things outside the kitchen, and so the busy housewife may keep in touch with the world outside, and be a bright, entertaining and cheerful companion who will not only secure happiness for herself, but for all those around her.

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Gyp.

(A true Story.)

VELMA CALDWELL MELVILLE.

It was many years ago that beautiful, brown Gyp was born, one sunny day, in the far-off city of Oporto. Her owner was a gypsy, who coveted the American dollars that a sailor alluringly offered him in exchange for the silky-haired, hazel-eyed puppy; and so it came about that Gyp passed some months of her babyhood on the ocean. Arriving at New York at last, the sailor, himself becoming short for dollars, sold her to a dyer, and she went to live at the dye house where she reigned a social queen. Her affection and loyalty to her master were only equalled by her wonderful scent and rare intelligence. Of tricks she was mistress of any number, and would shake hands "just like anybody." But the most notable thing about Gyp was her ability to pick out any object, large or small, in water or out, that her master had touched. A clam shell marked and thrown into deep water would be picked out from any number of others and conveyed in triumph back to his hand; but poor Gyp's wisdom proved indeed to be a "dangerous thing." In passing a boot store one day her owner was surprised by the excited voice of a young man exclaiming:

"There's the dog, the very dog!"

Then the irate proprietor called the master in and demanded pay for a pair of boots which the dog had stolen.

"Gyp steal boots!" cried the astonished man. "What makes you think so?"

And then the clerk told of how a young man, accompanied by this same dog, had entered the store a few days before and asked to see the nicest boots they had, refusing to examine any until this particular pair was exhibited. These he tried on and then placed on a bench, asking that they might set there until the next day, when he would come in again, and then he went away. In the evening the handsome Spaniel had walked in, caught the boots in her mouth and ran away. The clerk had tried to follow, but she soon eluded him. And now the proprietor wanted pay for his goods. The master paid the bill and strode toward the dye house, and the next morning the employes saw one of their number take a subdued, and, to them, unaccountable departure. Evidently someone had been secretly winning Gyp's affections and training her to do his bidding even as she did her master's. Then the dog was deprived of her liberty and confined in a little yard back of her master's boarding house. This she did not like, and one day she spied an open door. Bolting for it, she rushed through the house and made her escape. Vainly her friends searched and advertised—weeks, months and finally years, four of them, passed and still no Gyp.

"It is the unexpected that always happens," they say, and so it was—when the master had ceased to look for his pet, he was suddenly arrested in the street one day by a brown dog bounding up on him and thrusting a muddy paw into his hand for a shake. Overjoyed, the man recognized the long lost Gyp; Gyp, though seedy and unkempt. He took her home, where loving care soon restored plumpness to the gaunt frame, silkiness to the brown coat and lustre to the tender, pleading eyes. But alas, Gyp seemed born for adventures, and one night the yard fence was sawn through, the dog's chain forcibly wrenched apart, and when the family arose in the morning Gyp was gone, nor did her master ever see her again, though he spared neither money nor effort in the search. What was her fate we may only conjecture, but it was supposed by many that she was the famous dog thief that for some years after that kept the city authorities fruitlessly busy.

GREATEST HOUSEHOLD NECESSITY FREE!
THE "1900" BALL-BEARING FAMILY WASHER SENT FREE
without deposit or advance payment of any kind, freight paid both ways, on 30 days' trial. Unquestionably greatest family labor saver ever invented. Saves time, expense, and wear and tear. Will do the family washing without boiling clothes, hand-scrubbing or back-breaking. Revolves on bicycle ball-bearings, and is therefore easiest running washer ever made. Will do two hours' washing in ten minutes. Washes blankets as well as laces, absolutely clean, and without the slightest injury.
KANSAS CITY, MO., May 14, 1902.
"I have given your washer a fair trial. It is the best washer I ever saw. It has washed our heavy blankets with ease. I washed them last spring and rubbed more than an hour, and yet they had to go through again, but the "1900" Washer cleaned them thoroughly clean. We do our washing very quick and have no tired and worn-out feeling as of old."
MRS. J. L. BANNER, 4302 Troost Ave.
It costs nothing to try. Sent absolutely free, freight paid both ways, for a trial of 30 days. No money required in advance.
Write at once for book and particulars to
THE 1900 WASHER CO., 23 S. State Street, Binghamton, N. Y.

WHEN YOU WANT a clothes wringer write to the AMERICAN WRINGER Co., NEW YORK. They make the best. Ask for their catalogue and prices.

Swan's Standard Roofing Fire-Wind-Waterproof
Put on with knife and hammer. Sample free.
A. F. Swan Co., 115 Nassau St., New York

GOOD SALARY for man in each county to sell teas, coffees, etc., to homes and stores. Valuable premiums to customers.
KIRTLAND BROS. & CO., Dept. GD, 296 Broadway, New York.

WINCHESTER guns are made for all kinds of shooting and Winchester ammunition for all kinds of guns. Winchester goods are always reliable and yet they cost no more than inferior makes.

Insist on getting The Buckskin Brand made of real rubber.
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A CONVENIENT LANTERN. Safe and gives best light. Look for name DIETZ. Catalogue free.
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Buy "BALL Band" BOOTS
Rubber and Wool, Arctics, and Rubber Shoes.

RUPTURE CURED while you work. You pay $4 when cured. No cure, no pay.
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ADVICE TO MOTHERS
Mrs. Winslow's Soothing Syrup should always be used for Children Teething. It soothes the child, softens the gums, allays all pain, cures wind colic, and is the best remedy for diarrhoea. Twenty-five cents a bottle.

Rider Agents Wanted
in each town to ride and exhibit sample bicycle
'03 Models high grade $9 to $15
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500 2ND-HAND WHEELS
all makes and models good as new $3 to $8.
Great Factory Clearing Sale. We ship on approval and 10 day's trial without a cent in advance.
EARN A BICYCLE taking orders for us. Write at once for bargain list and our wonderful special offer to agents.
Tires, equipment, sundries, half price.
AUTOMOBILES Bargains in new and second hand Autos and Motor Cycles. All makes and styles. If interested write for Automobile Catalogue.
MEAD CYCLE COMPANY, Dept. 15 C Chicago, Ill.

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Economy in Hats

PRISCILLA.

There are many women and girls who, in buying hats, do not give proper attention to the subject of suitableness. For instance, a hat of airy tulle or chiffon, with its wreath of dainty flowers, is especially suitable to wear with thin lawn dresses to church and for other occasions when they are not liable to meet with accidents, while the plainer straw hats, in sailor or fancy shapes are just the thing for all other times. If one must study economy in buying a hat, it is well to consider the popular scarf drapery as a trimming. It costs no more than other kinds of trimming and if of a good quality of silk, can be used for other purposes after ones tires of it as a hat trimming. All kinds of scarfs, from lace veiling to surrah silk, are used. The surrah silk cut one-half width and one and a half or two yards long, makes a scarf that can be draped in any way to suit the wearer. A large steel buckle to hold the scarf in place at the front or side is all that is needed besides. If the scarf should become soiled it can be taken off and washed in a suds of soft water and Pearline without injury. Such a hat always looks nice and stylish, besides not being ruined by a sudden shower. Next season, if a change is desired, the scarf may be colored with Diamond dyes and used for a sash, made into a vest and collar, or used in any of the many ways for which the material is suitable. The sailor shape is as popular as ever for common wear, with percale or linen shirt waists. A small scarf twisted about it and knotted at the side is pretty and well liked.

Melrose, Fla.

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Our Shut-Ins.

In this day and age of fraud one cannot be too careful in the distribution of her "mite," and yet we have always held that we would rather give to a dozen imposters than turn one needy, deserving soul away empty. However, as a rule, we believe that the miscellaneous asker of charity had better be said nay. It is coming to be a too common thing for a man, woman or child to appear at one's door with a printed statement of grievances and an urgent plea for help. Again, women (and men, too, perhaps) are going about in the guise of ministering angels, collecting money for some proposed orphanage or home for the fallen. They bring properly signed credentials (properly signed so far as we can know) and present their cause in most plausible language. Our town has just had such an experience, and but for a timely notice in a daily paper, would have been more fully victimized. As it was, a part of the money donated has been recovered.

But what we started to say is, do not turn a deaf ear to the really deserving—if they are proven. In bringing before our readers from time to time, the cause of the Christian Home Orphanage at Council Bluffs, Iowa, we have felt that we were pointing you to an unfailing bank where you might deposit your money, sure of the good it will do here, and sure that you will one day receive both principal and interest in the current coin of the Heavenly Realm. And so, too, in bringing a few shut-ins to your attention, we have tried to be careful. We wrote the postmaster at Wedowee, Alabama, in regard to Miss Sheppard. Promptly he replied that such a girl lived within two miles of the town, that she is a helpless cripple for life and that she is very poor and very deserving, and added that any kindness the readers of the P. F. might show her would be well directed and much appreciated, not only by her aged parents—once slaves—but by all who know the afflicted girl. One sister writes that she shall send her ten cents per week, and in so doing feels that she is indeed giving direct to the Master. Of the other members of our little shut-in band, we have no doubts, and now here is another opening for the sunshine to flow from our pen points into a darkened home.

Some of us have been writing and sending reading to Mrs. C. H. Sleight, South Glensfalls, N. Y. Now she writes, "The H. C. has made my life so pleasant, despite my pain, that I would like to share it with my sick sister, of whom I wrote you. She has been in bed ten months, and for a time her mind was affected. But now she is all right in mind, and having heard of the happiness my unknown friends have given me, she, too, begs for letters and reading, anything to while away tedious hours. But she cannot write letters. Her hands and feet have been all out of shape. Though some better now, she cannot write. She is very patient and believes she is going to get well, and they tell me she will if nothing new sets in. I am so glad and I wish I could, but she has little children and is needed more than I am. I am no better. The dropsy is gaining ground; am so filled up with the water that life, at best, is a burden. But I will not murmur; God has shown me many mercies and I know what He does is for the best, and sometime I will understand. If the H. C. friends will write to my sister a litt'e while, she may not need them long. Of course, if she gets well she won't. I want to thank you all for your kindness to me, and to express the hope that you will not forsake me, even though you divide your loving ministrations. Her address is Mrs. Silas Newton, Sandy Hill, Washington Co. N. Y."

"We shall not pass this way again."

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Our Book Table.

VELMA CALDWELL MELVILLE.

BY THE RAMPARTS OF JEZREEL.—Not since the day we laid aside "Ben Hur" have we read a book more fascinating than this work of Arnold Davenport—"By the Ramparts of Jezreel." The prologue alone is worth the price of the book, depicting, as it does, in words that thrill one's very soul, the translation of Elijah and his charges and prophecies, just before it, to Elisha. In it he gives his life's history, telling of the beautiful wife whose heart's blood had been spilled to satisfy the blood thirst of Jezebel—Jezebel, the most fascinating of women, yet the most murderous, unscrupulous and vile; of Idalia (Ladice as she was first called) his daughter; (who later figures as the heroine of the story) of all he had suffered; of all that he must leave undone. And then the story opens, and such a wonderful weaving of facts and fiction; such fulfilling of prophecies; such terrible treacheries and such terrible punishments! In Samaria, fair Samaria, the plot is laid; but in "White Damascus" some of it is carried out. It is a tale of action. With the greatest rapidity thrones are won and lost; the favorite of Omri's corrupt court today is in chains tomorrow. The King, who offers you the free gift of half of his kingdom today, will order the spikes run through you, or that you meet a fiery death in Moloch's bosom tomorrow.

They are all there, Elisha, Jehu (the real hero and wooer of the Lady Idalia), Jehoram, the king of Israel, Benhadad, king of Syria, Hazael (who afterward becomes king), Gareb, Gehazi, Jedekiah and Jezebel. There are pure and beautiful love scenes; there are dark revels; there are sumptuous feasts; there is beauty, color, music, wine and splendor; there is treachery, bravery, justice, injustice, all that went to make up semi-civilized life at an idolatrous court eight centuries before Christ.

But, interpreted by His chosen one, Elisha, we can trace the patient, guiding hand of Jehovah through it all. Not one promise was forgotten; not one of Elijah's phophecies failed until the hour when Jehu was proclaimed king of Israel, and Jezebel—what of the lady of enchantments? In the words of Holy Writ: "By the ramparts of Jezreel shall the dogs eat the flesh of Jezebel."

It certainly is not an overdrawn picture of the times, nor yet is there wanting the truth. Unlike "Quo Vadis," however, there is nothing objectionable about it. It is a well told tale; diction beautiful, descriptions of country realistic—a book for the whole family, one that can be read aloud. It is substantially bound in dark green and gold; contains 388 pages and the price is $1.50. We foretell for it "a great run." Send to the Farmer Co. for it. It is just the thing for home, school or public library.

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Correspondence.

A Subscriber, Hunt, Arkansas, writes: Dear Mrs. Melville: As I have just been reading the H. C., I thought I would write a few words. I have been a silent reader of the P. F. for almost two years and appreciate it very highly. Do not think I could do without it. I live on a farm and enjoy country life very much. It is so much pleasure to be among the chickens. We raise a good many. We can raise corn, cotton, wheat, oats and almost anything in the vegetable line here. There are towns within reach, where one can sell almost anything at a reasonable price. This is also a good fruit country. Have good water and plenty of it. I think it nice to write letters and send presents to the shut-ins to help them pass the long, weary hours. My mother has been confined to the sick room almost three months; has not been outside in that time. How long and lonesome the hours seem to her!

A Wisconsin Sister writes: Last season we took several little pleasure trips in this way: We would take a train in the morning to Milwaukee, and from there the street cars to some other place, and from there we took a train for home. The first time we went to Whitefish Bay, about seven miles from Milwaukee. It was a very enjoyable ride there and a beautiful place to visit. Then we took the trolley cars to Milwaukee and then the train for home. The next time we took such a trip we went from Milwaukee to the Soldiers' Home, about four miles from the city. The third trip of the kind was from Milwaukee to Waukesha, about twenty miles from Milwaukee. It was a delightful ride, as you may well suppose, and from there we took the cars for home. To economize time in Milwaukee we took a luncheon at the railway station. By so doing we could do a little shopping, etc. Each time we took these trips we took a friend with us, who lives in Milwaukee and that gave us all the more pleasure.

Farmer's Wife writes: We enjoy the P. F. very much. When I get reading that I do not think fit for a child to read I burn it. Yes, we, too, would rather rust out than wear out. I am sitting in a rocking chair now (has arms on it, too). We have two in the kitchen. When God put us in this beautiful world He didn't intend that we should work ourselves to death. Gray hairs and wrinkles will come soon enough. We want to make a small tent near the middle of our work land. When the men are busy there we will have dinner at the tent, and enjoy ourselves all we can. I received a letter today from Miss Kinney. She is suffering greatly; her poor feet are so swollen that she cannot have anything on them, and can only get about when someone carries her. She is so lonely. She is out of reading matter and misses it sadly. Her mother says the papers and letters the sisters have sent brighten her darkened life more than they can ever know. She has received four blocks and thinks they are lovely. Please, sisters, all send a word of cheer. It won't be long that we can do it. Then let us scatter sunbeams in her path while we can.

"Make it true, oh, I pray make it true,
For all those who miss a glad heritage here
When they cross o'er the river, the deep, dark river,
May it wash away sorrow's last tear."

Martha E. Morgan, Gardner, Kan., writes: I see directions for exterminating chiggars in the P. F. I doubt not its being better than one I have, but mine is good. It is turpentine, a little in lard, and put on chicken head and under the wings and where any chiggar would harbor. I know a little child that came near dying of chiggar poison, and that is what was used on it and it stopped convulsions, and baby was soon in a natural sleep. One thing here, don't think because a little turpentine is good that more is better, for it blisters and must be used carefully. I also sprinkle a little in the coops. Usually put it in suds, as there is less danger of getting too much. I use it every summer for chickens and for myself, when chiggars are bad, and no one ever suspects I have it on my clothing. A little on a cloth and put around the wrists in berry time, will keep them off to a great extent. Now Editor, or sisters, I want a suggestion for a rug made from the samples of men's clothing, pieces 3x5 inches. I would like rug suggestions soon. Have taken the P. F. nearly two years and am pleased with it and wish it success.

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Youths Parliament.

DAISIES.

MAIE WEST.
(9 years old.)

I am longing for the daisies—
The flowers I love so well—
They are dressed in prettiest garments
And they have a fragrant smell.

The children love to pick them,
And make them in a bunch;
And when they go to gather them
They take along their lunch.

The daisies are so pretty,
They dress in gold and white;
At eve they close their petals
To wake with morning light.

Veronica Millsops, Statesville, N. C., writes: Dear Mrs. Melville: I see letters from other children in the P. F. and I thought I would write one, too. My papa takes the paper and likes it very much, and I like to read the young folk's letters. My papa got up a club for the P. F. and received Mr. Terry's book, "Our Farming," as a prize. He thinks it a most excellent work. We have a school library, and, being librarian, I keep the books at our house and read a great deal. I like to go to school very much. I did not miss a day last winter. My studies are arithmetic, history, physiology, grammar, spelling and geography. I am trying to help mamma all I can now. I am 12 years old, and I want to learn to keep house. I can sew on the machine and do quite a lot of other things to help mamma. I have two brothers and one sister. My sister's name is Katie. She is four years old and is our baby. We live near our church and we have Sunday School all the year. I like Sunday School. I have received two books from the editor of the Biblical Recorder for getting some poems by heart. The books he sent me are "Alice in Wonderland" and "Wordsworth's Poems." If this letter escapes the waste basket I shall try to write again.

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Big Hatch of Chicks.—Big hatches depend primarily upon fertile eggs and vigorous hens. A weak, debilitated hen will not lay a hatchable egg. Fresh cut green bone tones up the hen's system, increases the yield of eggs, insures fertility and vigorous chicks. Every reader of the P. F. will do well to study the little pamphlet on this subject issued by Humphrey & Sons, Box 38, Joliet, Ill.; it goes into the matter from the scientific as well as the practical standpoint, and contains hints on feeding for eggs worth dollars to any poultryman. Incidentally it tells about the Humphrey open hopper green bone cutter, and the Humphrey rapid clover cutter. Whether you are thinking of buying a bone cutter or not it will pay you to send for a copy of this booklet, mentioning the P. F.

Feed Grinder Endorsed.—From the inquiries we receive we conclude it is a mistake to assume that all feeders have learned practically the great value to be derived from grinding feed. As to the mill to use, we are constrained to say that no reader can go wrong who interests himself in the Quaker City Grinding Mills, manufactured by The A. W. Straub Co., Philadelphia. We believe their continuance in high favor for a period of thirty years among feeders who would be expected to know what is best adapted to their uses, warrants us in giving them unreserved commendation. Of course, in the thirty years they have been improved. It is their mill of today of which we speak. Send for their catalogue and get full information at first hand. It will be mailed free to anyone mentioning the P. F.

Winning Points. — The merits of a thing are usually determined by the number of winning points it may have. The winning points of an oration, for instance, are sound reasoning, good diction and forceful delivery; the winning points of an applicant for a position are ability to work, honesty and faithfulness; and the winning points of a binder are correct principles in construction, durability and ease of operation. One make of machines may have many more winning points than another, just as one man may excel another in mental or physical strength. The vast majority of agriculturists know that the pre-eminence of the McCormick binder is due to the large number of winning points the machine has, among which are its staunch main frame, strong gears, roller clutch, elevator rollers, deck rollers, folding dividers, improved needle and roller twine tension—winning points that have made the McCormick world renowned.

A Helpful Poultry Book.—We have received from the Cyphers Incubator Co., Buffalo, N. Y., a copy of their new poultry guide, a volume of 196 pages with 300 fine illustrations, and with twelve chapters of eminently practical poultry instruction devoted to: Chap. I.—Starting with an Incubator. Chap. II.—Successfully Brooding Chicks. Chap. III.—Properly Feeding the Chicks. Chap. IV.—Duck Producing on a Large Scale. Chap. V.—Broiler Raising to Date. Chap. VI.—Profitable Egg Farming. Chap. VII.—Eggs and Poultry Combination. Chap. VIII.—Poultry and Fruit Farming. Chap. IX.—Scratching-Shed Poultry House. Chap. X.—Incubator and Brooding House. Chap. XI.—Feeding for Eggs. Chap. XII.—Standard Bred Poultry. This book is of great value to every earnest man or woman who wishes to do well in the poultry business, and is mailed free of charge to anyone who sends a postal card to the Company at Buffalo, N. Y., asking for a copy and mentioning the P. F.

The Ideal Farm Power.—The farmer or dairyman who wants the cheapest, best and most complete outfit for pumping, running cream separator, small feed cutters, churns, wood saws or any machine that requires a light power, should investigate the merits of the Gemmer one and one-half horse power gas or gasoline engine, generally known as the "All-Day Digger," before buying. The Gemmer line of engines are built for service. They are simply constructed of only the best and strongest materials that will resist wear. Can be started instantly, and there's no bother with ashes or smoke. The working parts of this engine are placed where they can be easily gotten at. It is said that these engines often develop from 25 to 30 per cent. more than the rated horse power. It has also been estimated that it costs less than one cent an hour per horse power to run the Gemmer one and a half horse power engine. Farmers, dairymen and all who are interested in engines should write to the Gemmer Engine and Manufacturing Company, 1711 Park St., Marion Ind., for a very interesting and instructive booklet, that tells all about these wonderful little engines. This booklet will be mailed free to any address if you mention the P. F.

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Our Experience Pool.

"Experience is the best teacher." This Experience Pool will be a weekly Farmer's Institute for the exchange of practical ideas by practical farmers. We want them to give their experience, as well as suggest topics for future discussion. We publish this department so that all may have the benefit of the tangible, practical experience of others on every subject pertaining to the farm. Let all contribute. A cash prize of 50 cents will be paid for the best contribution, 25 cents for each other contribution published. The only condition is that you are a yearly subscriber to the paper. Write on one side of paper only. On upper left hand corner mark plainly the number of the topic you write about. Articles on all topics must be in our hands at least three weeks before publication. Do not forget to suggest ahead topics for discussion. Address all communications to THE EDITOR, Box 462, Raleigh N. C.

Topic No. 577, June 20. — *Have You Ever Grown Irish Potatoes Under Straw? If so Tell us How You Succeeded and How You Planted Them and When?*

Topic No. 578, June 27. — *Experience in Cheese Making on the Farm. How do You Make and Cure and Keep it, and What Kind of Rennet do You Use?*

Topic No. 579, July 4. — *On What Crop Does the Farmyard Manure Pay You Best, and How do You Manage it?*

Topic No. 580, July 11. — *If a Man Has a Farm paid for and Land is Cheap Around Him, Should he Buy More Land or Invest His Savings in the Further Improvement of What he Has?*

Topic No. 581, July 18. — *Is it Best in the Central West to let Clover run Two Years or Only one? Will it Improve the Soil More in two Years than in one?*

Topic No. 582, July 25. — *How do You Make Cider and Cider Vinegar, and How do You Keep Cider Sweet?*

Topic No. 583, Aug. 1. — *Can Farming be Successfully Done in the South Without the Use of Commercial Fertilizers?*

Topic No. 584, Aug. 8. — *How Have You Succeeded Best in Exterminating Prairie Dogs?*

Topic No. 575. — Has the Manure Spreader Paid You on Your Farm for its Cost Over the Old Method of Hand Spreading? Can You Use it Profitably on Hilly Land?

Frank M. Terry, Silver Hill, Md.—The spring of 1901 I had spread by hand 153 loads of manure, which covered 11½ acres of corn ground. The manure was spread in hunks and chunks, just as is usually spread by hired help. The fodder from the 30 acres of land fed my 28 cows and 4 horses to the first of February, 1902. From February 1st to the 20th of May they were fed on imported hay at $20 a ton. The spring of 1902 I bought the Syracuse manure spreader with the drilling attachments. The land was plowed, smoothed, harrowed, marked and furrows opened. The spreader drilled two rows at a time, a stream of manure as big as your wrist; the manure was covered and corn planted directly over manure. The 153 loads of manure in drills planted 30 acres, giving me 500 bushels over the 1901 crop, and I am, this 10th day of May, 1903, feeding the corn fodder that was grown under the system of drilling in manure with the manure spreader. The farmer who keeps stock should own and use a spreader. I can afford a new one every year. In spreading 10 loads of manure to the acre with the manure spreader you cannot take a silver dollar and drop it on the ground without it laying on the manure. It does the work a thousand times better than possible by hand. If it is true that no plant growth can consume more than six loads of manure to the acre, then it is self-evident the manure spreader should be in the hands of every farmer.

John H. King, Smiths Creek, N. B., Can.—The manure spreader has paid me grandly. Last season I cut 33 tons of red clover hay on upland, largely from having a spreader. It spreads the manure more evenly and a much lighter quantity than can be spread by hand. By following a three year rotation, with clover to be cut for hay, a light application of manure is sufficient, thereby enabling one to manure three times as much land as can be properly done by hand. But my experience is that the spreader cannot be profitably worked on a hilly farm.

George S. Davis, Box 96, Northwood, N. H. —I bought a second hand Kemp manure spreader 8 years ago, and it has certainly more than paid its cost over the old style hand work, though I could not put it into figures. No doubt a new one would have been fully as profitable. I can spread the manure over more ground, making it very fine and even, and the land is thus richer in available fertility for the ensuing crop, so economizing manure. I can haul out and spread, alone, faster than if I hauled in heaps and spread afterward, economizing in time in early spring, when it is very valuable. Last, but not least for me, I save lots of back-breaking work for myself, thus economizing strength; no small item to a man who takes care of 5 to 7 acres of corn, 1 or 2 acres potatoes, 10 cows, 3 horses and 3 to 12 pigs and hogs, alone, all summer. This may not be much for a Western man, but it is plenty in New England, and I manage to do it by using riding tools as much as I can. My farm is composed of hills of various slopes, so there is no question about it being profitable for me on hilly land. Two smart horses weighing about 1,200 each, take it anywhere with a little planning so as to spread downhill when the spreader is full, and go up grade if necessary at all when the load is partly out.

Glade Yeager, Sprankle Mills, Pa.—The use of the manure spreader has many times paid its cost to us over the old method of hand spreading. With the present high prices of land, labor, tools and feed, about the only profit to be made from the feeding of live stock is by properly saving and applying the manure to the land. And it certainly cannot be done as well by hand as the spreader will do it for the same cost, nor even five times the cost. A coat of manure spread by hand on most any soil will repay the owner for doing so by the increased yield and fertility in the soil. The manure spreader will spread the same manure far better than it is practicable to do by hand, over twice the amount of ground, with the same or even a larger increase per acre, by having the manure much finer and becoming available more quickly for the use of the crop. It is almost impossible to get the hand spread manure as even over the ground as a spreader will spread it. By the use of a spreader one can spread their manure as it is made where it is most valuable, by having the spreader standing in a convenient place in the shed (under cover) and putting all the manure in it as made, and drawn out and spread as is necessary, only taking a few minutes (according to distance to draw). The manure spreader becomes the greatest factor when it comes to top dressing, either on the meadow or other grain. The spreader can be successfully used on the hillside if not too steep, by driving up and down the hill.

SUMMARY.

While the papers this week are few in number, they are emphatic in regard to the value of the manure spreader. There is no doubt of its value on level land and where the hauls are not too long. We found it impracticable to use the manure spreader on a mountain farm of 1,200 acres except on our bottom lands, of which we had 135 acres so fertile that no manure was ever put there except for garden truck, as the soil was fully ten feet deep and we used the land for growing forage to make manure for the hills. Our friend who says that he uses it on hills can hardly have such hills as we had, where we have had team, plow and man slip down hill forty feet in making a sharp turn around the point of the hill, and where we have repeatedly had to reload hay from capsized wagons. On that farm we would have had to keep a number of machines to do the work and then could not have gotten the manure out as fast as we did with three 4-horse wagons. But on farms with moderately level land and not too long a haul the manure spreader is an indispensable machine. With gently swelling slopes it would be easy to go straight up and down the hill, but not on steep hills, and to run the machine sidewise will never do at all. Hence our verdict is to use the machine by all means on small farms and gently sloping land.

◆

A Fine Kidney Remedy.

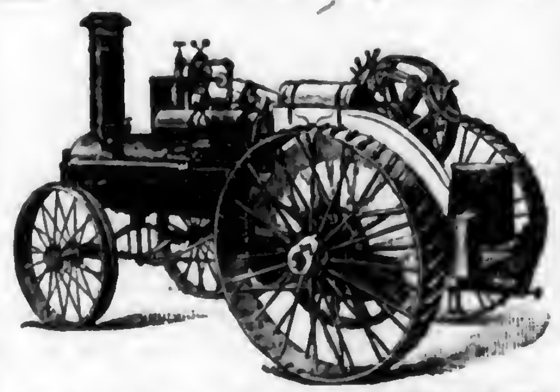
Mr. A. S. Hitchcock, East Hampton, Conn., (The Clothier) says if any sufferer from Kidney and Bladder Disease will write him he will direct them to the perfect home cure he used. He makes no charge whatever for the favor.

◆

Coiled Spring Fence.—The fence made by the Coiled Spring Fence Co., Box 117, Winchester, Ind., is claimed to be the strongest made. Chicken tight. Prices are low, as it goes direct from the factory to the user at factory prices. If interested, write for catalogue, mentioning the P. F.

More Money.—You need not find a gold mine, but the use of Young's Anti-Abortion Food for cows is worth its weight in gold; it is something that will stop the troubles which are daily decreasing the profits of farmers and stockmen. One of the great sources of loss is contagious abortion, and Young's Food Company claim to have found the remedy and they call it the 20th century discovery; all they ask is a trial and then it will recommend itself to do just what they claim. Stop abortion only when it is not due to accident and even then the food is a valuable adjunct to prevent the animal from lapsing to habitual slinking. Besides natural gestation and birth, due to the use of Young's Anti-Abortion Food, there will be no danger of placental attachments. They can show by the many testimonials they have that the food makes the cow produce purer and richer milk. In good condition the cow goes to her full period, nature asserts her rightful sway, the evils of abortion are thwarted, and there is no retention of the placenta or afterbirth to produce all these troubles which flow from it. Young's Anti-Abortion Food is a preventive for milk fever, you will not have sickly calves. This is a simple and palatable food preparation, doing away with the old methods and so-called cures in administering carbolic acid hypodermically.

Rumely Traction Engines. — Among traction engines, and there are many makes, none, to our knowledge, has come up to a higher plane of usefulness than that manufactured by the M. Rumely Company of La Porte, Indiana. Machinery of a superior type is to be expected of a company which has devoted a half century to developing what is adapted to one particular purpose. Their traction engines are of the rear geared pattern, and threshing machine people do not need to be told of the advantages which that carries with it. The wheels are all heavy, those bearing the greatest strain being made of steel, and this is suggestive, at the same time, of the most substantial character of the entire work. They are adapted to the use of either coal or wood for fuel, and meeting the requirements of many sections for firing with straw, they are fitted with direct flue so that straw may be used as advantageously as any other fuel. The whole is unquestionably a type of the best and most serviceable, both for generating threshing power and for traction purposes, that the age has provided. Anyone interested should write for the catalogue, which will be mailed free on application if you mention the P. F.



Our Barter Column.

Advertisements will be received for this column from our yearly subscribers only. Only advertisements of farms for sale, articles for exchange, help wanted, positions wanted, etc., will be received. Charge 1 cent per word for each insertion. No advertisements of less than 25 words or more than 10 agate lines will be admitted to the column. This column will appear each alternate week.

☞ **Special Notice.** The farms advertised in this column must be the farm of the advertiser, and not placed in his hands by another person for sale or exchange. No advertisements from Real Estate Agents will be accepted for this column; they must go in our regular advertising columns at regular rates.

Wanted. White oak timbered land in Tennessee or adjoining states. Give price and distance from R. R. J. W. SIMPSON, Box 194, Waverly, Tenn.

Wanted to exchange a fine young Stallion, 2 years old; 15-16 Norman, black, weight 1500, for two good milk cows. Address W. A. LEIST, Delphos, Ohio.

Wanted. Man to work on dairy farm to do general farm work. Wages $20 per month with chance of working up. Address, Z. W. BRENNER, Box 167, Bryan, Ohio.

Wanted. Two young men to work on farm for balance of season and will insure you work as long as you want to stay. Wages, $25.00 a month and board. CHAS. E. HICKS, Hope, N. Dak.

Farm for Sale. 58 acres, 28 in cultivation. New two-story house, other necessary buildings. 4½ miles from Thayer, in Oregon Co., Mo. A bargain. Address H. ARNDT, Hardy, Ark.

Farm For Sale. 80 acres; well improved; fine orchard; springs and running stream; splendid 5-room dwelling; healthful; school and church in sight. $2,000. E. WARREN, Paragould, Arkansas.

152-Acre Farm for Sale. Good improvements; lots of fruit. Wheat and oats main crop. 2½ miles west of Perry the county seat. Price $8200.00 or $7400.00 August 1st. CHAS. BOYLAN, Perry, Okla.

Farm for Sale, near Asheville, in "Land of the Sky;" 650 acres, about 150 cleared. New grist and saw mill, new house; fronts on French Broad River; R. R. station on place. Fine apple country; summer resort district. Price, $15,000, stock and implements included. CHAS. F. BALDWIN, Blantyre, N. C.

Farm of 49 acres for sale or rent in best trucking section of Maryland; two-story house, 5 rooms and outbuildings; abundance of fruit; apples, pears, peaches, plums, cherries, grapes. 3 miles from incorporated town, both church and school in sight. Price, $700. If rented, $60 for 1903; terms easy. For particulars address LOUIS M. CARR, Williamsburg, Maryland.

Farm For Sale. 160 acres bottom land, 60 acres farmed, 100 acres pasture, living spring, 350 inches water right, ditch covers place, open range, 5 room house, stable, wagon shed, steer feed lots, feeding shed, 14 acres potatoes, 30 acres alfalfa and clover, cash market, 6 miles from R. R., telephone connections. Reason for sale ill health. Great bargain at $2500. Further particulars address FRANK S. WALTERS, Twin Bridges, Mont.

For Sale. In Hanover Co., Va., on Hanover Road, 2½ miles from Ashland. Convenient to churches, schools and Randolph Macon College. 2½ miles from R. R.; excellent market; Star Route mail delivery daily. 185¾ acres of land ⅓ cleared, ⅔ in pine and oak timber. Apple, peach and pear trees. Crops included in sale. Good, 7 room house, halls, pantry and porches. New chicken house, wagon shed, corn crib, fertilizer and tool house being built. At $2500, a bargain. D. F. SHIPLEY, Ashland, Va.

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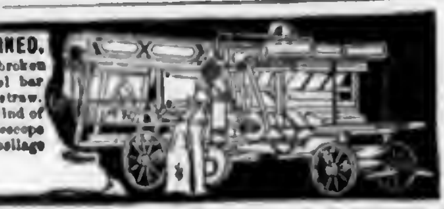

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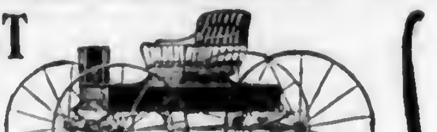
It threshes and cleans rye perfectly and at the same time saves the straw intact and unbroken and binds it into neat, long bundles ready for packing, baling and shipment. The steel bar cylinder and concaves are entirely without spikes, thus saving the long texture of the straw. Capacity, 150 to 200 bushels per day. It will last indefinitely. Can be driven by any kind of power—steam, tread or sweep. Equipped with Nesmith Patent Grain Register and Telescope Bagger if desired. We make all kinds of Tread Powers, Wood Saws, Engines, Feed and Ensilage Cutters, Corn Shellers, Fanning Mills, etc. Also Round Silos. Catalogue free.
HARDER MFG. COMPANY, Cobleskill, N. Y.



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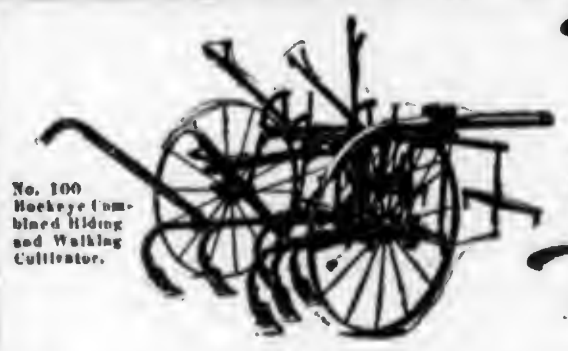

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We fill this department this week with information about books. Thousands of our P. F. friends have purchased copies of these books, and we are not exaggerating when we say that every farmer ought to have a copy of every book advertised on this page. They will be sent postpaid at the prices named. Here is how you can get them absolutely free. Your choice of any one of these six books: Massey's "Crop Growing and Crop Feeding;" Terry's "Our Farming;" Greiner's "How to Make the Garden Pay;" or either of his two "Garden Books;" "The People's Horse, Cattle, Sheep and Swine Doctor," for a club of six yearly subscriptions to the P. F. at 50 cents each. Your choice of any two of the following six books: "Practical Farm Experience No. 1;" "Practical Farm Experience No. 2;" "The P. F. Household Guide;" "Farm Helps;" "Mistakes and Failures;" "Short Cuts No. 1," for a club of six yearly subscriptions to the P. F. at 50 cents each.

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You know we are offering a choice of any one of 15 premiums for each club of 6 yearly subscriptions to the P. F. at 50 cents each sent to us. Five of these premiums: Massey's "Crop Growing and Crop Feeding," Terry's "Our Farming," Greiner's "How to Make the Garden Pay," and "The Garden Book," and the "Horse and Cattle Doctor Book," are described elsewhere on this page. Here is a brief say-so about the others:

Our Dollar Seed, Plant and Bulb due bill may be a little late for this season, but is good until used. It gives you a dollar's worth of seeds, plants and bulbs of your own selection from the catalogue of one of the most reliable seedsmen in the United States. Everything true to name. Send the club and use the due bill whenever you want to.

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Prof. Voorhees' "The First Principles of Agriculture," one of the latest additions to agricultural literature, is destined to become a classic. It should be in the library of every thinking, progressive farmer, who is striving to make the most of his profession.

Warren's book, "200 Eggs a Year per Hen; How to Get Them," is the best contribution to practical chicken knowledge that we know. 200 eggs a year per hen means large profits in the hen yard, and a careful study of this book and faithful following of its directions makes this possible in every hennery.

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Our Practical Farmer Fountain Pen is the equal of any two-dollar fountain pen sold. It is always ready for business; take it out of your pocket, and there it is, pen and ink, in your hand. We can furnish it in either fine, medium or stub point. After you have had it a week you will wonder how you ever got along without it.

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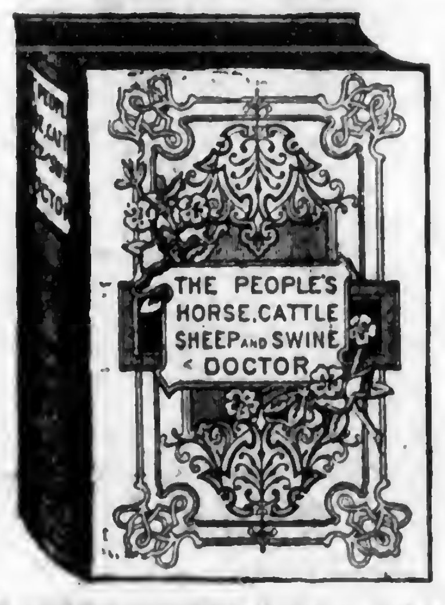
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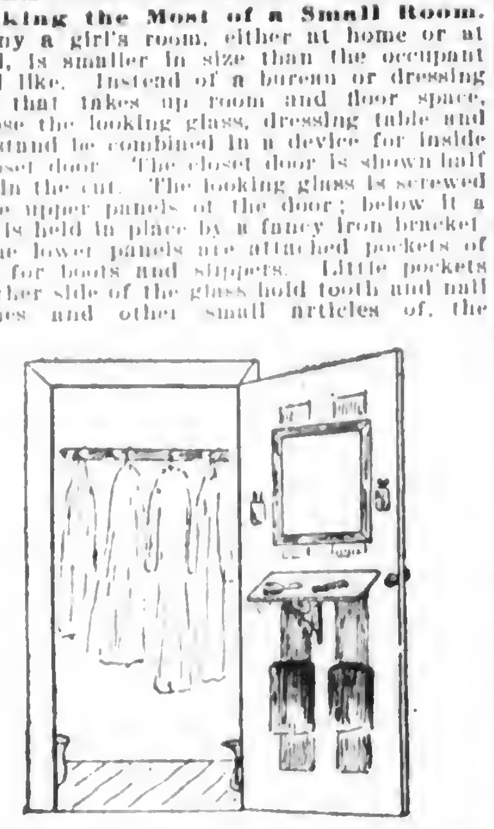
SHORT CUTS.

BY PRACTICAL FARMER SUBS.

All other trades have resorted to "Short Cuts." To be successful farmers must resort to them, too. In this column we will publish all actual labor saving short cuts made by the farmer on the farm and the housewife in the home. Write and tell us of any labor saving tool you have made of any method of management or manner of using implements to save time, labor and money, or increase their efficiency. Even the smallest things may be useful and valuable. Hints and helps in the household are always welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Write on postal cards and make articles short. All errors will be corrected by the editor. Address all communications under this head to T. Greiner, La Salle, N. Y.

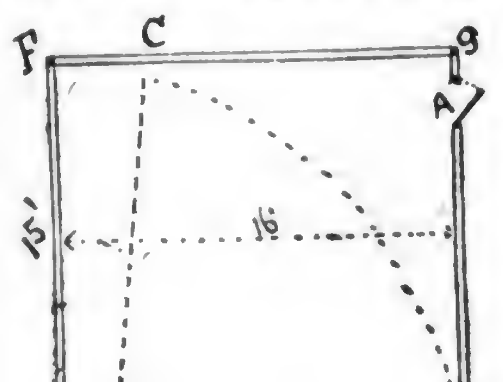
Making the Most of a Small Room.—Many a girl's room, either at home or at school, is smaller in size than the occupant would like. Instead of a bureau or dressing table that takes up room and floor space, suppose the looking glass, dressing table and washstand be combined in a device for inside of closet door. The closet door is shown half open in the cut. The looking glass is screwed to the upper panels of the door; below it a shelf is held in place by a fancy iron bracket. To the lower panels are attached pockets of cloth for boots and slippers. Little pockets on either side of the glass hold tooth and nail brushes and other small articles of the toilet. The shelf occupies no closet space that would otherwise be occupied, for clothing would not be hung at the front of the closet, in the doorway. The pitcher of water and its wash bowl can be kept in the bottom of the closet, at one side, or out of the way under a shelf that may be placed low down in one end of the closet. Such a device is also of value where a girl's sleeping room must also be her sitting-room. There is no loss of light by this closet door arrangement, for when the glass is to be used the door is swung open, bringing the glass into the room with the added advantage that it can be swung to almost any angle to catch the best light from the windows.



Mrs. A. L. Boardman.
R 2, Salamanca, N. Y.

Barrel for Meat. — A barrel which has become musty or in which meat has spoiled may be made sweet by burning. Place in the bottom, in an old pan, a few cobs well saturated with oil. An oil barrel will do nicely after burning out inside. Just before using a barrel for meat again, throw a small handful of sulphur upon some live coals and turn the barrel, inverted, over it, thus fumigating it thoroughly for an hour or two.
Spring Mills, N. Y. A. R. Evans.

To Make Wild Colts Gentle.—Build a rectangular corral, F B G E, 15x16 feet. Make a small gate, A, on the side G B, and a large gate, D B, 15 feet long; let it hang on the post at D and swing from B to C. Drive your colt in through the gate A. Now swing the large gate from B to C and he will be in the narrow space F C D E, and you can reach the gate and curry him, harness him—anything. He can't bite, kick or hurt you in any way.



Herbert F. Smart.
Long Valley, Cal.

Arranging Clothes Lines. — Attach a pulley to one support of your clothes line, run wire through same and fasten to bucket or keg with bail on. Regulate the height, fill with rich soil and plant some trailing vine. Unland Bros.
Arlington, Neb.

To Wash Woolens. — The secret of washing well any woolens is chiefly in having the different waters of equal temperature, with none of them at any time too hot to put the hand in comfortably. Soap should not be rubbed on the articles, but used in the form of a thin suds. It should be a good soap, too. A little borax is the best thing to soften the water. For washing blankets, etc., it is to be preferred. Woolens should not be wrung by the hand, but rinsed and dried by squeezing. Woolen articles of every kind should never be allowed to freeze.
Zelda, O. Mrs. Hattie Mitchell.

Bird's Nest. Take an old half-gallon tin fruit can, nail it up to the under side of the grape arbor, and the cats cannot catch the birds. If the English sparrow takes possession, put your hand over the opening and the sparrow is yours. Punch a small hole in the lower side of the can to let out any water that may get in. Blue birds are nesting in mine now. I have been taking the P. F. for about eight years and have them all on file.
Elizabeth, Ind. John P. Treece.

A Cheap Wire Stretcher. — A handy wire stretcher is a round piece of timber 3 inches in diameter, 3½ feet in length. Saw a slot in one end of pole six inches back. At the other end bore a 1-inch hole 3 inches back; then make a round pole, fit and insert it half way in the hole. Then put wire in slot, put stretcher on opposite side of post and twist. J. L. Parrill.
Kinmundy, Ill.

Device for Washing Dishes.—Every housewife dreads the painful task of washing dishes in hot water. Take two pieces of hard wood about a foot long, one-half inch thick and one and a half inches broad at the end where the two pieces are bolted together. The ends that clutch the dishcloth are concave, with notches so as to hold the dishcloth in place. The writer has used one for several years and would not be without it. Anyone that can set a hen properly on a hillside can make one. W. R. English.
Rome, Ky.

For the Household. Old pieces of velveteen make a good substitute for chamois skin to be used for polishing. They can be washed easily. Keep a small scrubbing brush for washing vegetables if you wish to save your hands. For five or ten cents you can get one with a handle. R. P. Handy.
Berlin, Md.

Brushing Peas. No farmer should buy what he can profitably do without. While it was my intention this year to use wire netting, which I would have to buy, for my garden pea vines, it gave me pleasure to find that I could follow the rule above given and at the same time utilize a waste product. Many young peach trees after bearing one or more crops, have died for me, and after grubbing them out I found that the shoots and outer branches trimmed off with a sharp ax, will make excellent pea brush. So here's an end to laborious searching in the woods after brush. Thos. H. Strain.
Wellsburg, W. Va.

A Useful Box.—A small, strong box is very handy about the barn. I have one that has been used seven years, and is as good as ever. I use it for a milk stool, feed cattle bran, and salt them in it (they cannot hurt it), and use it for various other purposes a box is needed for. My box is made out of 1-inch planks bound or spliced with ½x2-inch stuff, both inside and outside.
Morristown, Tenn. Paul H. Converse.

Marker for Garden. — Take a piece about 3 feet long and bore hole in centre and insert an old hoe or rake handle for handle. Then bore holes about 6 inches apart. In the first hole in the end insert a pin and fasten it so it cannot move. Have a pin you can move to any hole you wish. Make first row with line. Set pin the distance you want your rows and you are ready. If rows are to be only 18 inches, you can mark two at a time. J. D. A. Carpenter.
Lawndale, N. C.

Soap Bark for Washing Woolens.—I have found the use of soap bark to be one of the best short cuts in the way of cleaning soiled woolen clothing, coat collars, pants, vests or skirts too heavy to be washed. It is one of the cheapest detersives I know of. Purchase a five-cent package at the drug store, cover with water, let come to a boil, strain, and when cold sponge the soiled portions of the garment, rubbing thoroughly; then rub with a dry cloth and press with a warm iron. In cleansing a dress skirt, sponge every breadth thoroughly, then press on the wrong side. The goods will seem like new. The bark may be put into the liquid, or more water added to the bark and used again and again. M. R. Waggoner.
Blue Grass, Ia.

For Pickling Meat. — Having read a number of good recipes in the P. F. for keeping meat, I believe I have still a better one. For 100 pounds of beef, mutton or veal: 6 lbs., salt; 2 lbs. sugar; ¼ lb. black pepper; 1 ounce cloves; 1 ounce nutmeg; 1 ounce saltpetre. For pork use 8 lbs. salt. Spices ground coarse. Boil half an hour, then pour it onto the sugar. Dissolve saltpetre in boiling water and add to it. Add water sufficient to make brine enough to cover meat.
Cambray, Ont., Can. C. H. Coates.

Mending Stockings. — Children wear out the legs of stockings while the feet are good. Save all the big folks' stocking legs that are always good when the feet are worn out. Cut them down to fit the children. Make one seam in back of leg. Cut off worn legs of children's stockings, sew on like made ones at the ankle, where shoes will hide seam. This is easier and quicker than darning or patching, as all sewing can be done on machine and the stockings look good as new and will last as long as new ones.
Palmyra, Pa. Mrs. W. M. Gilbert.

An Ideal Drag.—Take four oak boards (white oak preferred) 8 feet long, 10 inches wide and 2 inches thick. Nail together weather-board fashion, giving 2-inch lap, with 20-penny wire nails. Bore 2 large holes, each 2 feet from end on front side. Either side may be front side if turned right; you must judge. Fasten log chain through these holes and hook doubletree in centre to chain.
Donnaha, N. C. H. T. Apperson.

To Roll up Barbed Wire. — Take a piece of wood 2x4x14 inches, make a notch in centre four inches wide and one inch deep. In the centre of this notch mortise a hole 1¼ inches square. Now make a windlass 30 inches long and 1½ inches square, slip this through hole in 2x4 and fasten with nail 8 inches from one end, put crank on short end, and make long end round so it will slip through hole in spool; also make it round between 2x4 block and crank. The notch in 2x4 piece will fit side of spool so as to enable you to turn it by the crank. To operate, grasp windlass with left hand and pin in crank with right hand; let a man take the other end of windlass, fasten end of wire to spool and walk right along turning crank as you walk. By this you can roll up wire as fast as you care to walk, and do it nicely and rapidly. P. P. Featherstone.
Decherd, Tenn.

Killing Tent Worms.—Load your gun with a half charge of powder (a full charge is not necessary), hold the muzzle about a foot from the nest of the worms and fire away. The whole tent, worms and all, will disappear as by magic, not a trace left, if you hold the gun in the right position—not too near. If you use the breech-loader and will charge the shells before you start out, a large orchard can be gone over in a short time. You may need a step ladder in order to reach some of the higher tents.
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Mistakes, Failures and Successes.

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Wasting the Wealth of the Land.—After years of observation and reading I am persuaded that many thousands of dollars' worth of manure is lost in this country or valley. I do not know of a single farmer who is prepared to properly save manure. There are no cement floors to catch the urine, which to my mind is absolutely necessary. Much stock is fed out of doors where the manure is almost if not altogether lost. Instead of saving all that is made and making all that can be made, we depend on commercial fertilizers to grow the crops which have depleted our lands. These fertilizers are good if rightly used, but used as they have been since they were introduced into this country, they are a great evil. I find it much more difficult to get a stand of clover than in former years and the land washes much worse. We are all in the ditch together. I note this good sign, however, that there is, here in Sullivan county, a restlessness to get out. We are meeting and talking these matters over and trying to remedy our evils. I will be compelled to build a barn ere long, and when I do build, I mean to put up a modern structure large enough to hold all the grain and provender that I raise and stock I keep, with cemented stable floors. With trap of a barn I have and the present management, much of the manure goes to waste. S. B. Fickle.
Blountville, Tenn.

Pen for Brood Sows.—Size 10x12, 4 feet high under the eaves. The building should be double boarded on the outside of studding, with paper between. If it is desired to move the pen from one place to another, it could have runners for a foundation, and the plank could be laid down loose so as to be more easily taken up should occasion require. The pen should have a common sized door in one end and a window in the peak of the other. A small door in one side would be convenient. Across the end opposite the door a 2x4 should be nailed to the floor, leaving sufficient space for the sow to make her bed. At brooding time there should be a board some 8 inches wide placed 6 inches from side of building, also one from the end across to the 2x4, and these boards should be 5 or 6 inches from the floor; this will tend to keep the sow from lying on her pigs. A ventilator should be placed in the centre of the roof to ventilate the pen. Such a pen will be sufficiently warm for the coldest weather and will prove a convenience which many farmers have failed to supply. It is also handy to use in fattening a small number of hogs. In case it is desired to keep pen in one place the foundation can be stone with cement floor. Wm. L. Blakeslee.
Chesaning, Mich.

Dried Apple Pies.—When pie material is scarce I find the following plan very good and inexpensive. Take one pint of well cooked fruit, mash fine and add the beaten yolks of two eggs, three tablespoonfuls of sorghum, flavor with nutmeg. This is sufficient for two pies. Bake without top crust. When done spread the top with frosting made of the whites of the two eggs used in the pies. Set in oven to brown a little.
Springdale, Ark. Mrs. Chas. Cottrell.

A Pest to Horse.—It is now about time for the bug or fly which comes annually and pesters the horses by entering their ears and filling their bodies full of blood. The horse will shake his head trying to get rid of the pest, but it sticks fast. Place a little grease on the inside of the ears; I sometimes take grease from wagon wheels. This will prevent the flies from entering the ears.
Goshen, Ind. H. J. Schrock.

To Kill Cut Worms.—Mix thoroughly one teaspoonful of Paris green and one quart of cottonseed meal. Drop about half a teaspoonful by each plant. It should be used in fair weather. The cut worms like the meal and will eat of the mixture in preference to the plant. Mrs. J. A. Kirkman.
Grand View, Tenn.

Care of Horses' Shoulders.—When you come home from the field and water the horses, have a basin and rag ready at the watering tank and wash the horses' shoulders thoroughly with cold water. They will never have sore shoulders or collar galls. A great many farmers make the mistake of working their animals right along and never examining their shoulders until they are sore. Here an ounce of prevention is worth a pound of cure. A. B. Cramer.
Columbus, Neb.

Selling Farm Products.—Last fall I sold two loads of hogs to a new buyer. Circumstances were such that I could not have them weighed at home, and a short time afterwards it was discovered that they were not weighed correctly by the buyer. The man went "up the spout" financially, and my loss was $15, with no way to regain lost money. When there are old, reliable buyers, stick to them through thick and thin, or beware. This is not saying that all new buyers are gougers. As a rule, the farmer having no scale should sell all farm stuff at the old stand. It sometimes costs to experiment with new things. E. B. Kirkeberg.
Eagle Grove, Ia.

The Dress of the Cook.—The dress of the housekeeper, and especially of cook, is of more importance than it is generally thought to be. The kitchen and the cook's attire should, above all things, be clean if you wish the food to be free of foreign tastes. First, she should have a short skirt, made of duck preferably, to wear in the morning while at work. This will also be found very convenient when doing outdoor work and on rainy days. In addition to this she will need a waist of soft, washable material, a large apron, a pair of false sleeves and a cap. An apron made of oilcloth will be a good investment for hog killing and other days of extra work. On Sundays when she returns from church she can step into the kitchen, put on her cap and oversleeves and with her large apron will soon be ready for work. When dinner is over and dishes washed she can pull them off and her dress will be clean.
Climax, N. C. Stella Field.

Cutting and Laying Carpets.—A new rag carpet may be cut without wasting a rag by stitching twice across on the sewing machine in the centre of each of two rags, then cutting between them. By stitching on the rags every chain is held firmly. It makes it still better to stitch through the next rag on each end also, and if thus stitched will not require hemming. Do all the farmer sisters know that the easiest way to stretch carpet is to put on a pair of rubber overshoes, over the shoes, and after tacking carpet at one end of the room, begin at that end and "stamp" across to the other end of room, setting the feet down firmly and shoving the carpet ahead at every step. Do this every few feet, having an assistant, if possible, to tack the carpet in place as fast as stretched. If you have never tried this method you will be surprised how easily your carpet may be stretched. Emma McFarland.
R 4 Utica, O.

Thoughts on Housework.—Silverware may be cleaned and look nice as new by rubbing lard everywhere over them and dusting them with common baking soda, being sure to get all over them. Let stand 15 or 20 minutes or until you are ready to clean them, then rub thoroughly with tissue paper. Scratches on furniture, if not too bad, can be effaced by rubbing well with the meats of walnuts, butternuts or hickorynuts, but first be careful to free meats from every particle of shell. A good washing fluid can be made of a package of Babbitt's lye, 5 cents' worth of aqua ammonia and 5 cents' worth salts of tartar. Dissolve in one gallon of rain water, adding the ammonia last. Cover tight. Soak clothes over night and in the morning wring out. Place boiler on the stove with clean, clear water; when boiling hot add three-quarters of a cup of the above mixture; put in the clothes while water is still boiling, and boil them 20 minutes. Rinse in two waters and hang up. Use no soap and do no rubbing. This does not rot the clothes one bit. Mrs. W. M. Knoer.
Huntland, Tenn.

More Nursery Stock.—One of my worst mistakes was in not planting a large apple orchard when I bought my farm. A 10-acre orchard now would be worth more than the entire farm. Apples do well here and should be planted largely. I then made the mistake of buying of a stranger who charged me $20 per hundred and said the 17-year locust would not sting them, as they were grafted on imported stock. The next trees I bought of a neighbor for $12 per hundred and they were better than the first.

Flying Machine Man.—I want all P. F. readers to be on the lookout for the "flying machine man." He was in this part of the country some time ago. He claimed to have his machine ready to get patented, but did not have enough money and was around selling shares, only to the poorer class of people, telling them the one share would make them rich after the machine was patented and they got to manufacturing them. The shares were $100 each. Some bought two and three shares, thinking that if one share would make them rich, two or three would make them richer. Of course these people could not afford to take a good farm paper like the P. F. My last success was in securing a copy of "Frauds of America." This book exposes all the frauds and swindles of America.
Clearville, Pa. Clymer Fletcher.

[I hardly see how such a work could expose all the frauds, for are there not new ones being originated constantly?—Ed.]

A 75-cent Success; a $75 Mistake.—I gave an agent 75 cents for a year's subscription to the P. F. My father-in-law, who by hard work and close economy has made some money at farming, made light of me and remarked that the first man who published a newspaper should have been killed. In less than six weeks he entertained three lightning rod agents in his parlor, laughed at their cheap jokes, smelled their cheaper cigars, let them remove an old rod and paid them $75 for a new one. A. G. Higgins.
Belwood, N. C.

Scaly Legs.—I bought a Plymouth Rock cockerel from a man who breeds all kinds of blooded stock. He seemed "dumpish" and after a few days I discovered that his legs were covered with scales. I had read of the disease, but had never seen it. Following directions that I had read, I soaked his legs in warm soapsuds and then applied coal oil. Next morning he was dead under the roost. Nearly a year later I discovered that most of my hens had the disease. Every morning for a couple of weeks I caught each hen and held her while an attendant painted her legs with coal oil, using a paint brush. I have not seen a sign of scaly leg since.

Hog Lice.—My hogs were free of lice until a neighbor brought a sow to breed, and soon after this I found lice on my hogs. I bathed them with kerosene emulsion, using a cloth, also anointed them repeatedly with sulphur and grease, but still they were lousy. Then I began applying pure coal oil with a cloth along their backs, around their necks, back of the forelegs and on the flanks. I did this once in three days for several weeks. The head of the herd, whose hair was heavy, would scratch himself for a few minutes after the application and the skin of the white ones would redden. These were the worst results that I could detect from the application. They have all been free of vermin since—over a year. Wm. H. Wheeler.
Greenleaf, Ore.

Spring Seat for Porch.—I want to tell you how I made a nice spring seat for the porch. We had an old bed spring; one of the slat and coil spring kind and some of the slats were broken. I took it all apart, as I only wanted the springs. I made a frame of heavy, rough pieces of pine 3 inches wide and half an inch thick, using for cross-pieces some that came off bundles of shingles. I fastened all together well with wire nails and put on four round legs of pine, the top of the legs being even with top of frame, then attached springs to cross strips with a wire nail. Drove nail down half way and bent it over spring to hold it in place; nailed strip across each corner over legs to hold them in place. Folded an old comfort for the top and tacked a piece of carpet over all, around edge. Nice seat. Tilea E. Huff.
Ft. McPherson, Ga.

Sour Bread.—There have been several inquiries as to the cause of bread becoming moist, doughy and sour in the middle of the loaves. This condition is seldom found, I believe, except in extremely hot and muggy weather, when the humidity is great. My experience has been that it requires thick loaves a long time to cool entirely through in such an atmosphere, consequently they are put in the jars or boxes while the middles are still warm and this causes the fermentation. I never have any difficulty in keeping raised bread a week in any kind of weather, either in stone jar or tin bread box, if it is thoroughly cold throughout before covering up. In hot weather I put each loaf in a paper bag, which prevents mould on the outside of the loaves. I hope this will help the sisters out. A. E. McKinney.
Gorham, Me.

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Located 3½ miles southeast of Garrett. Location level and fertile. Good roads, telephone and rural free delivery all complete. The winter wheat looks fine. Prices: Good horses, $150 to $175, cows, $50 to $60 each; hogs, 7c.; butter, 22c. per lb; eggs, 11c. per doz.; wheat, 70c., oats, 30c.; corn, 50c. per bu; hay, $11 per ton. Hired help is scarce. We have plenty of good schools, churches and people. JOSHUA MILLER.
R 1, Garrett, Ind. May 26, 1903.

Genesee Co., Mich. Prices are about as follows: Wheat, good milling, 70c.; grown, 60c. per bu. Much of the wheat was damaged by rains and is being fed by farmers to supplement the corn crop, which was short in quantity and of non-marketable quality. Western corn retails at 53c.; oats, 35c. per bu., hay, a great crop in quantity but not of high quality, $8 to $9 per ton, with 40 to 50 per cent still in growers' hands. Horses in good demand, strictly No. 1 teams are wanted at $400 per span; good dairy cows hit close to $50 each, with butter around 20c per lb; eggs, 15c per lb. Fat lambs are being rapidly marketed at an average of $6 per cwt. Hogs and hog products are out of sight. Potatoes, 50c. per bu., with few for sale, owing to rot; Wisconsin crop keeps prices down. Contracts for sugar beets being freely made at $4.50 per ton for 12 per cent. beets, with 33 1-3 cents added for each 1 per cent above 12; fifteen factories running in the State last year and more being built. Gross receipts ran from $40 to $90 per acre to growers last season. The Bay City alcohol plant for distilling the beet molasses, is reported to have paid the Government $1,000,000 revenue tax. It is the only plant of the kind in the country. Good beet lands in the factory belt are in good demand, with prices steadily rising. E. HOLLENBECK.
Davison, Mich., May 23, 1903.

Located 16 miles from Alamogordo, our county seat, and 7 miles from Cloud Croft, our great summer resort; altitude 9,000 feet at C. C., 7,000 at Highrolls. We grow fine fruit, corn, wheat, oats, barley, cabbage and potatoes, of which immense crops are raised without fertilizer of any kind; alfalfa is grown for hay; four crops are cut a year, and then used for pasture, as all stock runs out all winter. This is mostly a stock country, though much farming is done. Plenty of water, but grass playing out. Weather mild; all crops planted and coming up; fruit all right for this year, though much of it killed in different places. Land sells from $25 to $100 per acre; horses, $50 to $100 each; hay, $12 per ton; butter, 25c. per lb.; eggs, 25c. per doz.; potatoes, 2c.; cabbage, 1c.; corn, wheat, barley and oats, from 1½ to 2c. per lb. Everything sold by pound. We have lots of timber on the mountains, such as spruce, pine, oak and aspen. The Alamogordo Lumber Co. has two mills running. They bring the logs down from the mountains by railroad. Farmers hard at work, but looking cheerful. W. H. MAULDIN.
Highrolls, N. M., May 21, 1903.

Twenty miles south of Asheville, N. C., lies Hendersonville. This is a beautiful town with a population of 2,000. This number is about doubled during the summer and fall months with visitors from South Carolina, Florida, Alabama and Mississippi. They come here for their health. The principal streets are now being macadamized. We have also telephone lines running all over the town and suburbs; two railroads pass here, with indications for another one soon. Henderson county raises more cabbage and Irish potatoes than any other county in Western North Carolina. Thousands of dollars' worth are shipped from here annually to South Carolina, Georgia and Florida. This county seems to be adapted to cow peas, clover and the grasses. Farmers are trying, on a small scale, velvet beans, cassava, milo maize, alfalfa, etc. Prices: Horses, $50 to $100; mules, $75 to $150; milch cows, $25 to $50 each; dressed hogs, 9c. per lb.; pigs, $5 to $10 per pair; corn, 80c.; wheat, $1; rye, 75c.; oats, 60c.; Irish potatoes, 60c.; sweet potatoes, 75c. per bu.; eggs, 10c. per doz.; butter, 20c. per lb.; hens, 30c.; broilers, 20c. each. Land in the county can be bought for $10 to $25 per acre; near town it is higher than these figures. J. M. DERMID.
Hendersonville, N. C., May 26, 1903.

Located 11 miles southeast of Casper, the county seat of Natrona county, about 60 miles east of the proposed Devil's Gate reservoir to be built by the Government. Casper being at present the busiest and most thriving town in the State; population 1,500 and growing fast. Oil refinery located here and doing a big business; oil field 60 miles north. Sheep and cattle are the principal stock industries, with hay a close third. Good market for produce of all kinds. Poultry beginning to have some attention. Eggs, 20c. per doz.; chickens, 50c. each; butter, 25c. per lb.; potatoes sell at $1.50; oats, $1.60; corn, $1.25; cabbage, $5 per cwt.; milch cows, $40 to $50 each; beef in local market, 7c. per lb., but most live stock is shipped East. Help very scarce; ranch hands command $30 to $35, and sheepmen are paying $35 to $60 per month. Spring has been very cold; warmer now and everything moving. Everybody in best of spirits over outlook. Long live the P. F. WM. MOSTELLER.
Casper, Wyo., May 21, 1903.

Situated in Bradley Co., East Tennessee, 6 miles from Cleveland, the county seat, and one-half mile from Tasso, both on Southern Ry., also on long distance telephone line and R. F. D. route, of which there are seven in this county, with prospects of more in the near future. These routes are largely a result of the extensive system of pike roads in this county. Soil of valleys is very fair quality of red mulatto and ridges of light, gravelly nature. Ridges are being set in peaches, which have given good returns, many thinking this equal to the Georgia peach belt. Fruit has been injured some this season by frost. Farm work was greatly delayed on account of excessive rain; most of the corn planted but not doing well yet on account of dry and cloddy condition of soil now; wheat and winter oats outlook only about half a crop; good clover and grass from fall seeding. Hay will be light. Mixed farming, dairying, trucking, fruit and poultry in this section. Wheat, 90c.; corn, 65c.; oats, 50c. per bu.; hay, 60c. to $1 per cwt.; hogs, 5c. per lb.; sheep and cattle low; horses and mules very high; eggs, 10c. per doz.; butter, 17c. per lb. Hog cholera has not been here for several years. Farmers here seem to be working and hoping for a more prosperous season than last year. A. R. CATON.
R 5, Cleveland, Tenn., May 23, 1903.

Situated in Johnson Co., 3 miles southwest of Hunt and 15 miles of Clarksville, the county seat, and 7 miles north of Coal Hill, which is a little mining town, there being much coal shipped from there; lots of coal mining in this county and coal under most all of the land. This is a very good fruit country, apples a very good crop; peaches are a light crop; cherries good; strawberry crop good. Principal crops are corn and cotton; cotton is the money crop. Some wheat and oats raised, but were almost a failure last year and poor prospect this year, needing rain badly. The climate is healthful. Land is hilly and lots of pure water nearly every farm having a good well of everlasting water and lots of springs. Is a very good stock range; most all stock is healthy; plenty of hogs raised. Sometimes we have a dry spell that cuts crops short. Corn and cotton were very good last year, but very short year before, and prices very high. There is a large amount of pea hay raised here and stock keeps well through the winter. We had a very rough winter; lots of rain and the worst roads that were ever known. We are having a late spring; cool and very dry; crops doing poorly. Farmers very well up with their work; have been needing rain badly. Hired help is very scarce. Prices and produce: Wheat, $1; corn, 50 to 75c.; peas, $1; oats, 50c.; potatoes, $1 per bu.; eggs, 11c. per doz.; butter, 12½c. per lb.; chickens, 15 to 25c.; hogs, $6 to $7 per cwt.; cows, from $15 to $30; horses, from $25 to $125 each. A. D. PRICE.
Hunt, Ark., May 23, 1903.

Located 9 miles north of Danville, the county seat of Vermillion Co. Corn, oats, wheat and small fruit the main crops. Oats and fruit greatly damaged by the late freezing weather. Cattle and horses and hogs are raised in great numbers; good draft horses are selling for $125 to $200; milch cows, $40 to $60 each; hogs, $6.40 per cwt.; poultry, 9 to 10c.; butter, 25c. per lb.; eggs, 13½c. per doz.; potatoes, 50 to 60c.; corn, 35c.; oats, 30c.; wheat, 62c. per bu.; hay, $12 to $13 per ton. There has been no hog cholera in this vicinity for five years. It has been a very cold and backward spring, but the farmers are preparing to plant the greatest corn crop that was ever put in Vermillion Co. Danville is the home of Speaker Joseph G. Cannon. The U. S. Soldiers' Home is located at Danville. Coal is found in great abundance. N. N. WOOD.
Danville, Ill., May 25, 1903.

Located in Cleveland Co., 14 miles from Shelby, the county seat, surrounded by a lot of good farmers, and they seem to do better where they take the P. F. and practice its good teachings. We had a wet winter and spring until the last of April, has been dry up until now. Fruit is very good except in some places it was killed by the frost. Wheat about one-half crop and some worse. The farmers are looking for a dry summer and a short crop; oats are looking fine. Stock wintered well. Chickens doing fine; have good sheds and yards to keep them in rainy, cold weather; young chickens are 20c.; old ones, 8c. per lb.; eggs, 10c. per doz.; butter, 15c.; meat, 12½; hams, 15c. per lb.; horses, from $50 to $160; mules, $60 to $200; cows, $20 to $65; pigs 6 weeks old, $3 each. Our country is fine and healthful; good mountain breeze; good pure water; several good mineral springs and hotels. I think the Editors are doing a good work on the P. F.
B. R. DELLINGER.
Belwood, N. C., May 25, 1903.

Located at Morrisville, Polk Co., Mo., 22 miles north of Springfield, 10 miles south of Bolivar, the county seat, in a good farming community. Land productive and advancing in price. The principal crops are wheat, corn, timothy and clover. Average crops of wheat from 15 to 20 bushels per acre; corn 25 to 50; potatoes also yield well. Fine fruit country. People intelligent and wide awake. Morrisville College is located here; a fine school, doing good work; also a graded public school. Our town is situated on high land; fine water; 1½ miles from 'Frisco R. R. Boarding pupils here from several States. Markets good; corn, 40c.; meal, 60c. per bu.; butter, 12½ to 15c. per lb.; eggs, 12c. per doz. A large mill is located here, which buys thousands of bushels of corn and wheat, which makes a good market for farm produce. Land high, from $25 to $75 per acre, according to location and quality of land. Are having a wet season; crops backward. Stock a fair price and doing well on pasture. Success to the P. F. J. W. BOND.
Morrisville, Mo., May 23, 1903.

Located 18 miles west of Austin, the State capital, 30 miles north of San Marcos, the county seat of Hays Co. Country hilly; valleys fertile. Excessive rains prevented much work being done in fall and winter. Spring cool, which retarded growth of crops. Wheat and oats crops injured by April drought. Principal crops are corn, cotton, milo maize, Kaffir corn, oats and wheat. Prices: Land, $1.50 to $3 per acre; farm help, $8 to $20 per month; corn, 65c.; oats, 50c. per bu.; butter, 15 to 20c. per lb.; eggs, 15c. per doz.; hogs, 4 to 6c. per lb. Poultry scarce, no sale for horses and cattle.
L. E. RICHIE.
Cedar Valley, Tex., May 22, 1903.

Reside 2 miles west of Angola, the county seat of Steuben Co. (the banner county for small lakes and pleasure resorts). Spring opened fine in March, so that many turned on pasture, but heavy frosts and cold later on retarded farm operations. All fruit except peaches now looks fine. Prices: Milch cows, common, $30 to $40; extra milkers, $40 to $60 each; hogs, live, 6c. per lb.; poultry, thoroughbred cocks, 50c. to $1; pullets, 50 to 75c. each; common stock, 6c. per lb.; horses for work on farm, $25 to $150 each; potatoes almost worthless, many being fed to hogs; wheat, 71c.; corn, 40 to 55c. per bu.; flour, $4 to $4.50 per bbl.; butter, creamery, 23½c.; other butter, 12 to 16c. per lb.; eggs, 14c. per doz. Prospects good for all grain and hay crops. E. G. RICHMOND.
R 3, Angola, Ind., May 26, 1903.

New Factory Building Just Purchased by INTERNATIONAL STOCK FOOD CO., Minneaoplis, Minn.

It is the famous Exposition Building built by the city of Minneapolis on the bank of the Mississippi River and overlooking St. Anthony Falls. It is now to be used for the manufacturing of the celebrated "International Stock Food." The building is 300 by 300 feet and has an addition 75 by 150. It is the largest manufacturing building in the entire Northwest and contains over 600,000 feet of space. It cost the city over $400,000.

Located in southeast part of Monroe Co., Ill., 2 miles north of Red Bud, which is our business town, on the M. & O. R. R. Climate is healthful. We have a free rural mail delivery; also telephone connection to all the towns. Wheat will make half a crop; spring crops are all back on account of weather. Products of this part of the country are all kinds of cereals, cattle, hogs and horses. Stock scarce and high. Prices: Wheat, 68c.; oats and corn, 35c. per bu.; hay, 50c. per cwt.; eggs, 12½c. per doz.; spring chickens, 15c.; old ones, 8c.; butter, 15c. per lb.; cows, $40 to $50 each; calves, 5½c.; hogs, 6½c. per lb.; shoats, $3 to $4 each; horses, $50 to $150; mules, $100 to $200 each. Fruit all destroyed by late frost. Farm help scarce; hands ask from $1 to $2 per day and board; females can hardly be had at any price.
LEWIS J. GREGSON.
Red Bud, Ill., May 25, 1903.

We have fine spring weather now; no storms. People healthy. Crops are late; fruit crop safe thus far; some peaches ripe now; blackberries and persimmons all O. K. Will soon be plenty Irish potatoes, melons and garden truck of all sorts, so we have no prospect of starvation at all way down in Dixie, even if we did have hard luck with poor crops last year. The boom price of cotton now will cause a hustle with the hoe in the cotton patch and no doubt the silly class will neglect the crop and cause short rations again. Meats are not as high priced as was expected last year; there is plenty of beef. Pastures are fine; plenty grass in this county for thousands of cattle, sheep and colts. Land is so cheap immigrants should come and see for themselves before locating a home. H. A. SHAW.
Brandon, Miss., May 25, 1903.

Situated in Newton Co., 15 miles east of Neosho, the county seat, a fast growing railroad town having two railroads; fine farming and fruit section; strawberries shipped in large quantities from Neosho. Newtonia is our township town. In Newtonia township, with about 600 inhabitants, where a great deal of business is done. Country surrounding Newtonia is a fertile prairie farming country; land ranging in price from $30 to $40 per acre. Prices: Wheat, 60c.; corn, 50c.; oats, 40c. per bu.; hogs, 6c.; cattle, 4c. per lb.; horses and mules, $100 to $150 per head. Weather wet; spring backward and farm work somewhat delayed. This is a lead mining section also, Granby being our nearest mining town of any consequence, which is fast building up and furnishes good market. Farmers generally in good spirits.
SAMUEL TURNER.
Newtonia, Mo., May 23, 1903.

Situated in the southern corner of Clarion Co. Wide awake and up-to-date farmers. Lime their land very heavily. Raise immense crops of wheat, oats, corn; also clover. Natural gas can be found on nearly every farm when prospected for. Good creamery at Leatherwood; patronized by all good farmers. Country well adapted for stock raising, as it is well watered by Leatherwood Creek and its branches. Free school seven months; teachers wages $35 per month; carpenters, $3; farm hands, $1.25 per day. State Normal School at county seat. Very warm in March; first of April cold; thermometer took a drop on fifth of April to 16 degrees above zero; vegetation hurt badly; May very dry. Eggs, 15c. per doz.; butter, 20c. per lb.; good horses, $125; cows, from $20 to $50 per head; wheat, 72c.; oats, 45c. per bu.
J. C. MARSHALL.
Brinkertown, Pa., May 26, 1903.

Located in Jefferson Co., Ind., near Madison, 2 miles from the Ohio River, on Rykers Ridge, one of the most beautiful spots in the Ohio Valley. Farming mixed, but mostly engaged in raising small fruits and vegetables for the market at Madison. Corn planting mostly done; wheat fair; promise of some apples. Hogs scarce; not many raised. There are a great many cow peas, onion sets and onion seed raised. Corn, 40c.; potatoes, 60c. per bu.; butter, 15c. per lb.; eggs, 15c. per doz.; young chicks, 20c.; hens, 10c.; onion seed, 40c.; cattle, good beef, 3½ to 4c. per lb. Farm hands scarce and just impossible to find girls to do house work; so many gone to city and found work in factories, etc. Thickly settled here. A graded school and two churches in sight. Farmers have rural routes and telephones. Been dry for several weeks, but a fine rain has made ground in good shape to plant now. There are very few in neighborhood who do not take the P. F. No toll roads in the county now.
MRS. H. L. GRAHAM.
R 4, Madison, Ind., May 25, 1903.

Located in North Middle Tennessee, near the Kentucky line. Country somewhat undulating. Farming is the principal occupation. This county (Robertson) is in the heart of the dark tobacco district, some of the finest tobacco in the world being grown in this county. The farmers are not sowing as many cow peas as usual; I don't know why. Wheat affected by rust. Most of the corn planted late. Some tobacco set, but a good deal to be set yet. Feed for stock very scarce with most of the farmers. Prices: Wheat, 80c.; corn, 65c.; peas, $1.40 per bu.; butter, 15c. per lb.; eggs, 10c. per doz.
E. L. EDDINGS.
R 6, Springfield, Tenn., May 26, 1903.

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THE KEYSTONE TO SUCCESSFUL FARMING

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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

Rotation for a Dairy and Pig Farm in Illinois.

C. L. Armentrout, Wit, Ill., has 80 acres of land. He keeps 8 or 9 cows, 4 horses and raises some pigs. He is thinking of keeping 22 acres in permanent pasture for the cows and cropping 50 acres in rotation. The remaining 8 acres will be used for pig pasture, after Forest Henry's plan, garden, orchard, etc. The rotation proposed is a 4-year one of clover, corn, 2 years in succession, then oats to seed clover in again. This will make 12½ acres of clover, and the same of oats, each year, and 25 acres of corn. Our friend wants considerable corn for pigs, cows and horses, hence proposes to grow it 2 years in succession and 2 years out of 4. He cannot, he says, raise wheat with any success, on account of chinch bugs, which not only injure the wheat, but also destroy lots of corn after the wheat is cut. The P. F. is asked for an opinion on this arrangement of farm and this rotation. It seems to the writer to be about correct, to start with at least. Corn only one year at a time would be preferable, in the long run, giving the enemies of the crop less chance to increase, but 2 years in succession may work for a long time all right. I would suggest one important matter; sow rye, or better, crimson clover, if it can be depended on to do well with you, in the corn the first year to plow under the following spring. You say you want to improve your farm as fast as you can. Do not leave the corn stubble bare over winter when corn is to follow. Grow a sod, of rye at least, to plow under. And I think I should do the same the second winter, even where oats are to follow. You will not get any great spring growth, as the ground must be plowed early for the oats, but you will have fall and winter protection. You will get protection from leaching down of fertility, surface washing and blowing away of fine particles of soil in the form of dust. And then with the corn stubble plowed under you have the surface in better shape for mowing. If you work the ground down thoroughly when dry the chances for oats and clover may be as good as when they are put in by simply harrowing the surface without plowing. Your farm is a small one and you ought to be able to do all work thoroughly well and on time. Ordinarily you should not need to resort to hasty, halfway methods. Now, you have corn land. You can grow much feed on an acre in the corn plant, about as much in the stalks as in the grain. It will pay you to build a silo and put half or more of your corn in it and save all the feed value of the stalks. This will make the best of feed for your cows. The brood sows may eat a little to advantage, and so may the horses. Then what shall you do with the rest of the corn? Take the ears for the pigs and horses. The cows will get enough in the silage. If they get more than enough you can pick off part of the ears before cutting the corn to put in the silo. Now you will notice that in your rotation you will have no wheat straw for bedding. You can use some of the oat straw, perhaps, but there will not be enough. The horses can eat a part of it to advantage along with the oats and clover hay. So shred, or thrash, your corn stalks and let your cows pick over some once a day, and then use what is left for bedding and absorbent. Of course, you will have cement floors under all cows, horses and pigs. Sometime you may want a summer silo, perhaps, so you can feed your cows partly and use less land for pasture. You should buy wheat bran, or other protein furnishing food, to go with your silage.

A Rotation for a Beef Farm in the East.—E. F. Bowlby, Dunkard, Pa., has 60 acres of sandy loam creek bottom land. Six acres of corn produced last year 840 bushel baskets of ears. About 8 tons of hay were made from 2¼ acres in Whippoorwill cow peas. Red clover does well, but wheat yields only about 10 or 12 bushels per acre, and oats 20 to 40. Crimson clover makes a good growth. Our friend desires to keep about 30 head of cattle, old and young. He has a registered Shorthorn sire and wants to make his young animals weigh from 1,000 to 1,200 pounds when 2 years old. He is planning to rotate crops on 24 acres and keep 34 in permanent pasture. Two quite different rotations are suggested. One, 12 acres of corn, followed the next year by cow peas; crimson clover to be sown in the corn and plowed in in the spring, and rye sown after the cow peas and plowed in for corn. The other rotation proposed is a 4-year one, of corn, cow peas, oats and red clover, with crimson clover and rye worked in as before. Of course, in this case there would be only 6 acres in each crop. We are asked which of these rotations we would prefer, under the circumstances. The former one, if the data given are substantially correct for the average of seasons. The yield of corn told of is good. The amount of cow pea hay grown per acre is very good. 30 bushels of oats per acre would not begin to pay as well. Red clover does well, but probably it will not give any more hay per acre, perhaps not as much, than the cow peas. So 12 acres of cow peas, as in the first rotation, will give about the same amount and quality of hay as 6 acres of cow peas and 6 acres of clover in the second rotation. Again, I should presume one would be more sure of a cow pea crop, properly put in at the right time, than he would be of clover seeded in oats. One weak point in both rotations for me would be the lack of straw for bedding; but perhaps our friend can get sawdust, or something else, to bed the stock and soak up the liquid manure. Right now, friend Bowlby, let me insist that you have cement floors under all animals. Certainly an Eastern man cannot make much money out of beef unless he saves all the liquid manure, and particularly for this sandy loam soil. In regard to the short rotation, I think the corn will do all right grown once in 2 years. I do not know about the cow peas, how long they may do well grown every other year. Prof. Massey can best answer this question. Another reason why I favor the short rotation is that one can grow enough of a crop to amount to something. 6 acres of oats is a small quantity to fuss with; 6 acres more of corn would pay better all around.

The steers at 2 years old, however, should weigh more than 1,200 pounds. A man in the East with only 60 acres of land should raise "baby beef." The young animals should be kept growing from the first and should weigh from 800 to 1,000 pounds at one year old. Do not give them too much corn at first. They want considerable growing material in connection with the corn. The cow pea hay will be all right, but they need some wheat bran, oats, or something of that kind, more concentrated than cow peas and clover hay, along with corn and corn stalks. I should put the corn in a silo, to rush these animals along fast, provided they can be warmly sheltered during cold weather. They need to be kept warm when eating this soft, watery feed, about the same as a dairy cow should be. They would feel the cold much more than grown animals fed almost wholly on corn in a dry condition. Here is a great point for you, my friend: A pound of gain can be put on a steer before it is a year old with a good deal less money value of feed than it will take to make a pound of increase during the second year. I mean, of course, the average of the year in both cases. And each following year the cost is very decidedly increased. I should put it about in this way, for an Eastern farmer. There should be a good profit in properly feeding a choice young animal the first year. Perhaps one could get along without the loss the second year. As a rule, he would run behind considerably the third year and lose more heavily the fourth. This on animals one raises and feeds right through and with prices about normal during the different years, and also counting all feed at what it is fairly worth on the farm. I feel like going back long enough to again urge you to grow the feed your land produces best (corn and cow peas, as it would seem) and to buy other feed you need that you cannot grow to as good advantage. This is business, and with good management will pay you far better than it will to try to raise crops that do not do well simply because you want them to feed. If one does not know how to manage, let him learn. It is well directed labor that pays best.

Health Hints. — "Let There be Light" in all the Homes of the People. —You were told in the last talk on healthful homes to avoid dampness under and around the house. Next, all rooms to be used for working, sitting, eating and sleeping should be freely accessible to sunlight. For the best results one should not work or sit down in a room, during the daytime, that has not the full light of day in it. Dampness and darkness are not healthful conditions. A perfectly healthful room should be as light as it is under a tree, at least. Dark rooms favor ill health, so do rooms into which the sun never shines. Where house plants dwindle along, weak and puny, human beings cannot be at their best. The glare of the sun may be excluded during the heat of the day in summer, but there should be full light from the side opposite the sun, so far as possible. Many American people are making a great mistake in using blinds, shades and curtains to exclude so much of the light of day. Light, and particularly sunshine, is healthful, as long as we are shaded from the sun during the middle of the day, when it is over hot. In hot weather let the sun shine in early in the day and again towards night, with its healthful influence. Better that carpets should fade than lives. Dark rooms may not cause any serious ill health directly, but one's vitality and good spirits, which help us to resist and ward off disease, will certainly be lowered more or less. People who are perfectly well, who enjoy as good health as is possible, are few indeed. You may not ever be sick, and still probably are not as well and cheerful and happy as you might be. Light and sunshine will help you. Let the sun shine into every bed room, in paticular, for a time, every day it shows its face. Hence, I would have no trees near enough to the house to shade any windows. Trees are grand, in their place, but do not let them shut any sunlight out of any room. Shade means more or less dampness, as well as absence of light, and both are unhealthful conditions. The same windows and doors that let in the light will also allow fresh air to enter, during warm weather, if they are open; and they should be, every one of them. Fresh air is a necessity, too, for the highest degree of health. Our own house was built, after much study, with the intention of having it as healthful a home as possible. You will excuse my telling about it, as it is only to show you that I preach what I believe in enough to practice thoroughly. The sun can shine into every room in our home used for working, sitting, eating and sleeping, freely, either in the morning or afternoon. The north windows open into bath room and store room only. Into our 3 sitting and living rooms, all open together as one, by having large double doors, the sun can shine morning and afternoon both, and about all day in winter. And there are 9 large windows, about 7 feet long, besides 2 outside glass doors, in this practically one room. The kitchen and dining room are about the same as one room, although partly separated, and into them comes the light and air from 3 large windows, and the same number of doors, with a draught through east and west. (House has been much improved since "Our Farming" was published.) The sun can shine in both morning and afternoon. The room upstairs where I am writing now, and where I often stay 16 or 18 hours out of the 24, has four large windows, and the sun can shine in almost every hour of the day, as the windows face east, west and south. I have told you of the screens the whole size of windows. Now, to conclude, no tree keeps the full light out of any window in the house. All this has not come about without much study and planning. Do not think from what has been said about blinds that they are not a good thing. They are when properly used. We have them, outside ones. I never use them to keep an occupied room dark. For example, just now, 9 A. M., the east blinds of my room are shut and the other three pairs are wide open. From sunrise until about 9 o'clock the east ones are open to let in the morning sunshine. In the afternoon I will shut the west ones until about 5 o'clock. The shades are taken off of three windows and each one lets in all the light that can come through a 2½x6 opening. It is as light as under a large tree, surely, and the air about as pure; but about that we will talk more at another time. Now, my dear friends, I do hope these words may not be simply read and no more thought about them. I believe them to be absolutely true and not overdrawn in the least. Study over them and see if you cannot make the lives of the women in particular a little more cheerful and healthful by making some slight changes, if no more. Perhaps one may be to cut down a tree that you know ought not to be where it is. Perhaps you can put in an extra window, or two, or a door. Perhaps you can change around a little in the home and use the most sunny and most pleasant rooms, and the largest and best, to live in yourselves, and sleep in, instead of having them closed, practically, under the old title of parlor and guest chamber. "And God said, let there be light; and there was light" (and sunshine in all the homes of the people). May the words in parenthesis come true in all P. F. homes some time.

T. B. Terry.

Planting, Cultivating and Harvesting the Corn Crop.

T. F. MCGLYNN.

During the past year there were 94,043,613 acres in corn, which produced a yield of 2,523,648,312 bushels, and of this vast amount I feel safe in saying that Kansas produced its share. Therefore, it might not be amiss to make known the methods and the machinery that we use in handling this king of cereals. The farmers of this section usually raise from 70 to 80 bushels per acre; the price of land being somewhat high compels each farmer to employ his best efforts to produce a large yield. But the fundamental principles of corn growing are easily gained.

Much could be said of the importance of thorough plowing for corn culture. This being very essential there should be no skips or what is known as the "cut and cover" principle, for this will mean a great decrease in the yield on a large quantity of land. Ground for corn should be plowed to a depth of six or eight inches, and should be of a uniform depth. A large number of our corn growers here use riding disk plows. The disk plow pulverizes the soil, leaving the surface in a splendid condition for corn planting. Few realize the necessity of having a fine surface for corn. When the surface is made fine, evaporation of moisture is greatly prevented, which is so much needed, not only in starting the corn to growing, but in maintaining life until the corn has matured. Therefore, time spent in harrowing the ground is not wasted. Where the ground is inclined to be rough or soddy, I would recommend the use of the Acme harrow. It has been used here by a number of farmers with great success for preparing ground for corn planting. A fine surface is one of the essentials in corn growing. Therefore I would encourage our young farmers to lay more stress on the preparation of the ground than that which it has received during past years. After the ground is in proper shape, the planting of the seed is in order, and, above all, plant pure seed. Never select seed from a point more southerly than that where it is intended to be grown. The necessity of this becomes obvious when we realize that the corn grown in the South will not mature in a Northern State on account of there being a difference in the length of the season. We usually plant to cover two or three inches, but as to the depth it matters but little just so the seed is placed in soil that is moist. Some of our farmers use a lister in planting, which is followed by a one-horse corn drill. However, this method does not allow cultivation both ways, which is almost a necessity in producing a large yield. The greater number of farmers in this section have their fields marked with a common corn row marker, then plant with a one-horse corn drill having an attachment which can be operated by the driver. Other growers use a check-row planter. The two methods allow cultivation both ways, which enables one to grow a crop of corn without hoeing, or other labor that would be required if cultivated but one way. But in all probability it is in the cultivation that most growers injure their crop. We usually cultivate our corn from three to five times, not including the harrowing, which is usually applied twice. We give deep cultivation for the first time, using the large shovels going as near as possible without plowing out the corn. The second time not quite so deep, while the third should be more shallow and further from the corn than the previous cultivation. Usually after the second or third cultivation we simply aim to prevent a crust forming on the surface, which if allowed will permit the moisture to escape, while if prevented the moisture will seek an outlet through the corn, which will be a benefit to the crop. We do not use a diamond plow in laying by our corn, but have found the cultivator to be far better, as it maintains a level surface. After the corn has been laid by and wild grass has grown, it would be well to turn the sheep into the field, as they will eat all of the grass and weeds and do no material harm to the corn. In this section we have but few farmers who practice shredding, on account of it being so expensive. I would not recommend it for a farmer with but small means and a small quantity of corn fodder; but for a man who has a large quantity of corn fodder I do not know of a better way of turning it into value. Fodder should be cut when about one-half the leaves are dry and shredded when well cured, which can be done by leaving it in the shock for a reasonable length of time; guide this according to climatic conditions. I have in mind a man who had in use a McCormick shredder which he operated with a gasoline engine; both machines gave great satisfaction, and his shredded fodder was in excellent condition. His stock ate practically all of it. Gasoline power being cheaper and safer, gets the preference of most of our farmers.

However, the cost of shredders may in the course of time, be within the reach of the average farmer, which will have a tendency to increase the number of farmers who will adopt this machine for turning their fodder crop into a valuable feed.

Kansas.

[Planting in checks will do on perfectly level land, but on land inclined to wash on hills, rows should run around contour of the hills on a level, and this, of course, means in rows to work but one way. The largest crops that have ever been grown in this country were grown in rows and worked one way. In the droughty regions of the West the general opinion seems to be in favor of the lister, which gets the corn roots down in the moist land, and in our own experience we have not found any difficulty in keeping the crop clean in rows to be worked but one way; we would not plant corn in checks on any land.—ED.]

New Jersey Agricultural College.

By passing the Rutgers College bills the New Jersey Legislature has done a simple act of justice to one of the noblest institutions of the State. Princeton as a great university, may overshadow Rutgers College, but it should always be remembered that Rutgers is officially and legally the Agricultural College of the State of New Jersey.

What is not as generally known as it should be, is that 40 free scholarships are provided at the College, for New Jersey boys, by a fund from the United States, and under this latest act the State will provide one free scholarship for each Assembly District in the State, to be awarded by competitive examination. The College will also get some back pay for scholarships already given by the State, but never paid for. This money will do much for the College, probably more, coming as it does in a lump, than had it been paid as earned. The Rutgers State College League has been active for several years in directing the work which the League has done in making an organized effort to pass these bills, and earlier ones, notably the ceramics bill of last winter, establishing and endowing a new department in the Agricultural College; but foremost in the fight, as he has always fought for the betterment of the College and through it for State education, was that man, educator, scientist and agriculturist, Professor Voorhees, Director of the New Jersey Agricultural Experiment Stations and Professor of Agriculture at Rutgers. To him, more than to any other one friend of Rutgers College must credit be given.

There is not a progressive farmer in New Jersey who does not owe something to Professor Voorhees, as a result of his Experiment Station work. As a successor of the late Doctor Cook in his capacity as Director of the State Experiment Stations, Doctor Voorhees has created, by years of steady work, a widespread sentiment among the farmers of the State in favor of the Agricultural College. There is not a farmer, mechanic or manufacturer in New Jersey who does not owe something to Rutgers College. New Jersey has no State taxes. Her treasury is full, and liberality to her educational institutions involves no outlay on the part of its citizens in tax payments. Rutgers is worthy of support. It is the College of the people and for the people of New Jersey, and as such the people should stand behind it. Every young man in that State will now have an opportunity to earn a scholarship, and residents of each district should see to it that its scholarship is filled by a resident and not awarded elsewhere.

The State College and the Farmers' Institute.

The passage by the Legislature and the approval by the Governor of an appropriation of $100,000 to begin the erection of agricultural buildings at the Pennsylvania State College, together with a virtual pledge of $150,000 additional to complete and equip them, go far to render the future of agricultural education in Pennsylvania secure.

Unfortunately the same liberality did not prevail in the appropriation for maintenance, the College receiving scarcely any increase in this direction to meet the greatly increased demands growing out of the enlarged equipment for agriculture. Recognizing the difficulties arising from this situation, the Director of Farmers' Institutes, the Hon. A. L. Martin, a staunch friend of the College and of agriculture, and who introduced into the Legislature of 1897 the first bill for an agricultural building, has most generously volunteered to forego for this year the aid which the College has been accustomed to render at the Institutes, and accordingly no assignments will be made by the College next winter. This action enables the College to resume the short winter course in agriculture, which has been suspended for four years. The creamery course will also be continued with the greatly increased facilities provided by the new building.

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Fertilizer for Sweet Potatoes.—S. P. Woodcock, Salisbury Md.—"Please give me a formula for a fertilizer for sweet potatoes. You sent me one or two last year but I have mislaid them. Land sandy. In melons last year and did well." We do not remember what mixture we gave you before, but the following has been as good as any for us: Acid phosphate, 1,200 pounds; cottonseed meal, 400 pounds; muriate of potash, 400 pounds, to make a ton. Use 400 to 500 pounds per acre.

Green Manuring. — Alvin L. Smith, Loveland, O.—"I would be pleased to have the subject of green manuring discussed in the P. F. My land will make 20 to 25 bushels of wheat per acre, with 200 pounds of phosphoric acid [I suppose you mean 200 pounds of acid phosphate, which is usually about 14 per cent. phosphoric acid.—ED.], thirty to forty-five bushels of oats after corn without fertilizer, and corn about forty bushels per acre without fertilizer. It is difficult to get a stand of clover. Rye grows finely with 200 pounds of fertilizer per acre. I think the land needs humus badly. My desire is to have a three year rotation, with one year for green manuring, and to feed as many pigs as the farm can grow food for. I will be thankful for any pointers on the subject." To devote a whole season to the growing of a crop merely for the purpose of plowing it under is poor farming. The restoration of the humus to the soil, is, of course, an important matter, but it should be done in an economical and business-like manner. In the start in the improvement of very badly run down land it may be of sufficient value to the land to warrant the turning under of a forage crop. But with land as good as yours it would be wasteful extravagance to grow a crop of clover or peas and plow it under for manure, when the feeding value of the crop is far greater than its manurial value direct, and fully 75 per cent. of the manurial value can be recovered in the droppings of the animals fed. While in heavy clay soil in your section there may not be the same danger from turning under a green growth in hot weather that there is further South, it is nevertheless true that green manuring, even where it does not sour the soil and render it unproductive, is still a wasteful practice. We sow clover and other legumes for feed and for what they will do in the way of helping the soil. Now if we cut off the growth before it is completed by turning the whole under to decay, we lose a large part of what the plant would have done for the soil if it had been allowed to complete its growth, and in a warm soil we certainly run the risk of doing more damage than good to the land. Your land is above the average in fertility now, and you can well afford to use all the forage that can be grown on it as food for stock, and then by the careful saving of the manure you can increase in its application the humus content of the soil. You say that it is hard to get a stand of clover. This is getting to be the universal experience in all parts of the country. And yet there are farmers who seldom fail to get good clover. Would it not be wise to try to find out the reason why your clover fails? Sometimes it is through acidity in the soil, for the microbes that aid clover in the getting of nitrogen will not thrive in acid conditions in the soil. The remedy in such a case is lime applied in moderate quantities to restore the soil to a feebly alkaline state. You can ascertain the facts in regard to your soil by burying blue litmus paper in moist soil over night. If it shows pink the next day it is evident that the soil is acid, and that lime will help it. If the failure of the clover is due, as it is in the majority of cases, to the exhaustion or deficient supply of mineral matters in the soil, then acid phosphate and potash should help you get a stand of clover. Clover will often succeed well on freshly prepared soil sown alone than sown on the hard soil among the winter grain. In your section it is well worth the while of the farmer to study the conditions of his soil that prevent the success of clover, for it should be the constant standby in the agriculture of the Middle States for the improvement of the soil, not by green manuring of the whole crop, but by feeding it to live stock and saving the manure to help the clover roots grow corn. The man, North or South, who ignores the feeding of stock and the saving of manure is not farming right, no matter what his money crop is, and I have never seen it pay on land in fair heart to plow under a feed crop worth $20 per acre as feed, when we can recover a large part of the manurial value of the crop if we save the manure properly. Green manuring should be left to green farmers who have not studied economical farming.

Scrofula

Few are entirely free from it.

It may develop so slowly as to cause little if any disturbance during the whole period of childhood.

It may then produce irregularity of the stomach and bowels, dyspepsia, catarrh, and marked tendency to consumption before manifesting itself in much cutaneous eruption or glandular swelling.

It is best to be sure that you are quite free from it, and for its complete eradication you can rely on

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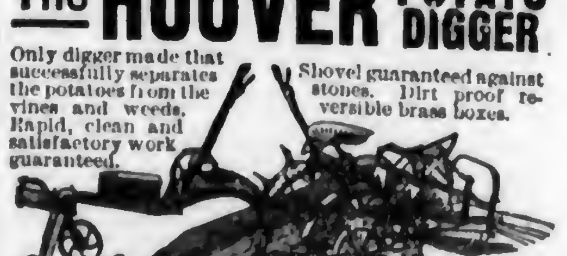

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Getting Rid of Sheep Sorrel.—Nickels & Parrish, Duffield, Va. "We would like to know the best way to get rid of sheep sorrel, which we have in some of our fields, as it is detrimental to the growth of other crops." The way to get rid of sheep sorrel is to bring about conditions in the soil more favorable to the crops that you wish to favor. Sheep sorrel will grow in a soil too acid for better plants like grass and clover. Not that the acidity of the sheep sorrel is due to the acidity of the soil, as some suppose, but because the sorrel can grow and thrive in a soil too acid for better plants. The acid in the sheep sorrel does not come from the soil, but from the air, through the assimilation of carbon by the green matter in the plant. Clover will not thrive on an acid soil, and to restore conditions favorable to the clover, which will enable it to smother out the sorrel it is necessary to use lime occasionally. The fact of the acidity of the soil may be ascertained, as we have said to another correspondent, by burying over night some pieces of blue litmus paper, which you can get at any drug store. If it turns pink in the damp soil it shows that the soil is acid and that lime is needed. Get, if possible, a good stand of clover and then give it a dressing of even 15 bushels of freshly slaked lime per acre and note the result. Or, if you have failed to get the clover, sow cow peas and cut them for hay, and then disk the stubble finely for wheat and put the lime on before seeding the wheat and clover, for clover will do better sown with you in the fall. Then I think that you will find that the clover will give the sorrel no chance.

Sundry Suggestions.—E. Lees, Roxborough, Pa.— "1. In fertilization, nothing takes precedence over animal bone, as it keeps feeding the soil for ten months. 2. Be careful not to grow pumpkins, squashes or cucumbers near canteloupes. 3. To secure large melons, have but one or two on a vine. 4. For a newly made lawn sow 4 bushels of seed per acre. A clayey loam is the best foundation for a good lawn. 5. Canada field peas are very profitable as a hay and forage crop, and a very early green or dry food, sown in March or April." 1. Pulverized phosphate rock is just as good as the bone and cheaper, if the phosphoric acid is what you are after. Many people have a notion that the phosphoric acid in bone is better than that in the rock, when the only question should be as to its availability. In bones and in the pulverized rock it is in an insoluble form and becomes available slowly, and this is the reason for the bone lasting. If you want immediate results you had better use the dissolved rock or acid phosphate as it is called. 2. There is not the slightest danger of the pumpkins, squashes and cucumbers mixing with the melons. I doubt very much if you could make them cross. The old notion that all the members of the cucurbitaceæ would mix with each other has been exploded by careful experiment. 3. Doubtless this is a good plan, but the abundance of plant food at the roots is far more important than the number of melons on the vine. I once saw a watermelon vine with 36 melons on it, and several of them went over 40 pounds. 4. Five bushels will be still better. The clay loam is the best, and if your soil is sandy and has a clay subsoil it would be better to get some of the subsoil in the surface soil before sowing the grass. Canada field peas are all right for Canada, but south of New York they fail more frequently than they succeed. Where the Canada peas fail, it is probable that the Southern cow pea will succeed and *vice versa*.

Navy Beans in Kentucky. — James Nation, Glenville, Ky.—"Please tell me all about the culture and yield of navy beans in Kentucky. I have a meadow sod of fairly good land that I wish to plant." As a rule, the navy bean will not be a commercial success as far south as Kentucky. On high, dry soil, and in a favorable season they may do fairly well, but generally they will not grow to compete anywhere with the product of a more Northern region. They do not need especially rich land, and the culture is in rows and very simple. But to gather the crop to advantage on a large scale you will need special machinery, such as is used in New York by bean growers. What the yield would be in your section we could not undertake to predict. It would probably be as much gross product as Northward, but the proportion of decayed beans will be immensely larger than in the North and will probably cut the profits off.

Alfalfa and Cow Peas in Michigan. —S. Minier, Bayshore, Mich.—Mr. M. tells of the productiveness of their Charlevoix Co. lands, and asks whether alfalfa or cow peas would do well there. The land is sandy, and wells over 100 feet deep. In your climate it will be perfectly useless, we suppose, to try to do anything with the Southern cow pea. You are three or four degrees too far north. Alfalfa ought to do well in soil of the character you name. It does well in Minnesota, and they seem to have there a peculiarly hardy variety. Perhaps if you write to the Director of the Minnesota Experiment Station, Prof. W. M. Liggett, St. Anthony Park, St. Paul, Minnesota, he may be able to tell you where you can get the seed of this Minnesota alfalfa. And he will also send you a bulletin on the subject.

Cabbage in Middle Tennessee. — V. Springer, Dickson, Tenn. — "Will cabbage plants set in the field in September stand the winter in Middle Tennessee? Is the Southport White Globe onion a good keeper?" Cabbage plants set in September might easily go through the winter in Middle Tennessee, but they would simply run to seed in the spring without heading. Cabbage plants raised from seed sown the middle of September, and set on the side of a list in October or November, deep enough to protect the whole stem, will winter easily in your climate. They are apt to fail here because of the warmer spells we have in winter, making them tender, and the cold in February damages them. They winter well on the north side of the city of Baltimore, where it is a great deal colder than here or in Tennessee. If you sow the seed too early you will get few heads. Never sow before the middle of September. Southport White Globe Onion is an excellent keeper.

Frosted Potatos. — E. Wickersham, Yellville, Ark.— "I have three acres of potatoes that were nipped by frost, but now show little trace of it. This is my first experience with potatoes. Will the frosting injure the yield? How can I tell when they should be dug? Will they keep all winter if put in a pen and straw heaped over them? Where will be the best market for me?" The frosting of the tops of the potatoes may not seriously interfere with the yield, but, of course, it will damage them to some extent. If grown for early shipment North, they can be dug as soon as large enough for market, though still immature. If for home use, and local sales, it will be well to let them ripen and the tops die before digging. Potatoes grown early in your climate will not keep in winter, and must be disposed of at once. You can plant some of them in late July or August or immediately after digging, and from these you can raise a crop that you can dig in November or December and keep with ease in hills or banks like sweet potatoes. Where your best market will be is impossible for us to tell. With direct railroad connection the best markets will be St. Louis and New Orleans. Get the address of a good commission merchant in either place and take his advice about shipping.

Buffalo Clover. — W. T. Bispham, Pocahontas, Ark.—"I enclose a sprig of clover, and wish to know what kind it is. I found about a dozen bunches of it in an old field I have been cultivating in peas, wheat and rye for several years. I did not think clover would grow in this land until I came across the plants growing so vigorously, and it has put me in the notion of sowing some clover and giving it a trial." The plant sent is Trifolium Reflexum, also called buffalo clover. It is a native plant in the South, and it would seem that it might be made valuable in cultivation. But we know of no experiments in its cultivation, and do not think that the seed can be had on the markets. The best clover for you will be crimson clover sown in September and cut in April or early May. This is an annual like the buffalo clover. The red clover of the North might make a crop with you on good land if sown in the early fall, but it would probably burn out the next summer.

Windmills.—G. E. Campbell, Julian, Pa.—"I would like to know something about windmills. Are they durable, and does lightning ever strike them?" The windmills manufactured nowadays are generally very durable. Never knew the lightning to strike one, and if it did it would not do much harm to the steel tower on its way to the earth. The Aermotor, the Samson, the Appleton-Goodhue and the Freeman advertised in the P. F., are very good machines.

A Small Water Power. — J. C. Oliphant, Zilleh, Wash.—"I have an irrigating ditch bounding my farm, the water pouring 6 inches over a 3-foot dam, and dropping 7 feet. Could I use this power for making ice, and if so, what apparatus would be needed? There are small machines, using ammonia, advertised in the English papers, but I cannot find out anything about them in this country. They are worked by hand and are used by many families." If the whole of this flow was confined so as to run with the 7-foot fall through a turbine you could get quite a power from it. But in regard to using it in the manufacture of ice we must confess that we are not aware of any small ice making plants that could be used. If there are any such made in this country the makers should advertise their wares. With a turbine of sufficient size there would be a very considerable power developed, which could be used for pumping water and other work.

Pasture in Va. and Forage in New Jersey.—J. R. Smith, Philadelphia.—"I want to make a permanent pasture on the Blue Ridge in Loudon Co., Va. Have any subscribers of the P. F. had any experience with sheep on such a pasture? What is the best green fertilizing crop to sow in corn on sandy land in Cumberland Co., N. J.? Does the cow pea make growth enough to pay for planting it at the last working of the corn? How would it do to sow half a bushel of peas and half a bushel of rye at the last working? Has anyone in the district had any experience with the cowhorn turnip sowed in corn? In a recent Pool summary the Mahaleb stock was advised for the cherry. Do they not make a weaker and less thrifty tree than the Mazzard?" In the Virginia mountains the best mixture of grasses you can use will be 10 pounds of orchard grass, 5 pounds of red top and 10 pounds of poa compressa, or, as it is sometimes called Canada blue grass. After sowing these per acre, scatter about 5 pounds of white clover seed and harrow lightly. The poa will finally make the permanent sod. Sheep will do excellently on this if you protect them from dogs. Cow peas will do well on the sandy soils of South New Jersey, and we would sow the peas alone at the last cultivation of the corn and work them in with the cultivator. Do not plow them under green, but wait till fully dead and you will do no harm to the land, which might be the case if plowed under green. Leave the rye out. The recommendation of the Mahaleb stock was for the South. In the Virginia mountains and in New Jersey the Mazzard will be best.

Fertilizer for Lawn. — J. F. Cass, Seattle, Wash. — "What compound or solution would you recommend to spray a lawn with to give the quickest and most certain results as a fertilizer, darkening the color and causing a fresh and vigorous growth to the grass after mowing?" An application of 10 pounds per acre of nitrate of soda, as growth starts in spring, will have a wonderful effect on the grass. For permanent help add 200 pounds per acre of bone meal.

"For the land's sake"— use Bowker's Fertilizers. They enrich the earth and the men who till it. Address nearest office, Boston, New York or Cincinnati.

IS IT AN EPIDEMIC?

Vital Statistics Show an Alarming Increase in an Already Prevailing Disease—Are Any Exempt?

At no time in the history of disease has there been such an alarming increase in the number of cases of any particular malady as in that of kidney and bladder troubles now preying upon the people of this country.

To-day we see a relative, a friend or an acquaintance apparently well, and in a few days we may be grieved to learn of their serious illness or sudden death, caused by that fatal type of kidney trouble—*Bright's disease*.

Kidney trouble often becomes advanced into acute stages before the afflicted is aware of its presence; that is why we read of so many sudden deaths of prominent business and professional men, physicians and others. They have neglected to stop the leak in time.

While scientists are puzzling their brains to find out the cause, each individual can, by a little precaution, avoid the chances of contracting dreaded and dangerous kidney trouble, or eradicate it completely from their system if already afflicted. Many precious lives might have been, and many more can yet be saved, by paying attention to the kidneys.

It is the mission of The Philadelphia Practical Farmer to benefit its readers at every opportunity and therefore we advise all who have any symptoms of kidney or bladder trouble to write today to Dr. Kilmer & Co., Binghamton, N. Y., for a free sample bottle of Swamp-Root, the celebrated specific which is having such a great demand and remarkable success in the cure of the most distressing kidney and bladder troubles. With the sample bottle of Swamp-Root will also be sent free a pamphlet and treatise of valuable information.

Don't make any mistake, but remember the name, Swamp-Root, Dr. Kilmer's Swamp-Root, and the address, Binghamton, N. Y., on every bottle.

Kendall's Spavin Cure the old reliable remedy for all kinds of lameness. Ask your druggist "A Treatise on the Horse" the book free, or address Dr. B. J. Kendall Co., Enosburg Falls, Vt.

Large English Berkshire Swine. Imported boars at head of herd. Prices defy competition. Send for catalogue for 1902. N. S. Barrier, R. F. D, No. 23, Frederick, Md.

LARGE IMPROVED YORKSHIRES.
The small York grown up; the best white hog, easy keeping and prolific. Young stock for sale.
E. E. STEVENS, Madison, Lake Co., Ohio.

DEATH TO HEAVES Guaranteed
NEWTON'S Heave, Cough, Distemper and Indigestion Cure. A veterinary specific for wind, throat and stomach troubles. Strong recommends. $1.00 per can. Dealers. Mail or Ex. paid. Newton Horse Remedy Co., Toledo, Ohio.

"Just as good!" "Just as good!" Did you say? "Just as good as Veterinary Pixine!!" The dealer who tells you this is mistaken. He does not know.

FACTS AND TESTS PROVE IT!

Emery, Ky., April 9, 1903.

I feel it my duty to tell what Veterinary Pixine did for a horse of mine. He was cut with a knife between the forelegs, 3 inches deep and 2 inches long, which every minute would gap open. I used several different kinds of remedy without success, even to having some stitches taken. Nothing did any good and it kept swelling and became feverish. I almost gave up hopes of getting him well. In the column of the Ohio Farmer I observed your adv. and, as it was the last chance, I purchased a box at the druggists and used it as directed and before the box was used up the was entirely well. I intend to keep a supply on hand for emergency cases if it costs a dollar a box. Please accept my thanks for the good I have received from its use and if you choose you can use my name and testimony.

W. S. Campbell,
Emery, Ky.

This penetrating, stimulating, soothing, absorbing, antiseptic, healing ointment heals from beneath the surface by disinfecting the parts, subduing inflammation and stimulating healthy granulations, not by drying and scabbing, and stimulates growth of hair, natural color.

Makes quick, clean and healthy cure; heals stinging, burning, chronic saddle and collar gall, hopple chafes, abscesses, inflammatory sores and all skin disease. It penetrates, stimulates, soothes and heals while the horse works. Money refunded if it fails.

Price, 2-oz. box, 25 cents; 8-oz. box, 50 cents; 5-lb. package, $4.00.

At all druggists and dealers or sent prepaid.

Troy Chemical Co., Troy, N. Y.

Also manufacturers of "Save-the-Horse" Spavin Cure, $5.00 a bottle, with written guarantee.

Live Stock and Dairy.

☞If stock breeders who have live stock to sell will use the columns of the P. F. they will be surprised at the results. A 4-line stock advertisement inserted one year will cost $37.44, only $9.36 per quarter, and will keep your business in a healthy and profitable condition

Dairy Farm in Tennessee.

PROF. A. M. SOULE.

Allow me to inquire whether it would be practical to run a dairy on rich mountain lands well set in grass, but no market for the milk—the only profit would be in raising hogs and shipping the butter? Would be glad to hear from those who have had experience in raising sheep, as this mountain land is well adapted to sheep raising—lying at an elevation of 3,500 to 4,500 feet—sheep seem to do well, and the same is true of cattle. The place is stocked with 2-year-old steers for this year, and would like to have some information along these other lines, as it might be more profitable to run the sheep and dairy cattle on the farm. The land is well watered with freestone water, breaking out in many parts of the most elevated portion of same. Would like to correspond with owners of dairy calves for sale.

Bristol, Tenn. A. D. REYNOLDS.

There is no reason why a dairy should not be maintained on the rich mountain lands, especially when well set in grass. The first essential for economic butter production next to a good herd is good grazing land. The mountain land will furnish grazing for several months of the year, and as it is capable of producing large crops of timothy and clover hay and plenty of oats, barley and corn for grain and sorghum or other desirable crops for filling the silo, an abundance of cheap roughness and grain of desirable kinds will be available for the winter feeding of the cows. Suitable foods will thus be available all the year. As the mountain lands are generally well supplied with cool springs, the ice problem which so often proves a serious obstacle to the dairy farmer in the valley region also disappears. With plenty of skimmilk and corn as cheap pork can be made on the mountain lands as anywhere else, and it would not be a difficult matter to market the hogs either alive or slaughtered. The hog business is one of the most valuable adjuncts to dairying, and on the mountain lands where plenty of mast is available as well as hickory bark for curing of the hams, there is no reason why the animals should not be slaughtered on the farm and the hams cured after the old Virginia method. If they are then kept for a year or two and a special market sought out for the product, such as can readily be found in the larger cities of the East, these hams should bring from 20 to 25 cents per pound as they would have a peculiarly rich flavor which cannot be obtained from the ordinary corn fed product. The butter from the dairy could easily be transported to a suitable market in some of the modern forms of ice chests now so commonly used for that purpose. Butter made at such an elevation from the rich herbage of the mountain region if put up in fancy form, would soon establish a remunerative market for itself. There is no reason, therefore, why a well managed dairy should not prove a profitable investment on the rich mountain lands of the Southern Appalachian region. The productive capacity of the cows and the general management would have more to do with the success of the enterprise than anything else. Of course, when starting into the business, it would be well to locate as nearly as possible to a good shipping point. The mountain land is well adapted for the production of sheep. The elevation and the climate suit them admirably and they need but little protection except from the rains of winter. The medium wooled breeds will do better than the long wooled ones, because the fleece sheds the water better. The grazing lands are well adapted for their needs, and as already mentioned, plenty of cheap rough food in the form of hay and grain can be produced for their winter maintenance. No more favorable situation for the development of sheep husbandry can be found in America than that found everywhere in the Appalachian region; the greatest drawback to the development of the business being the cur dog, and the only remedy for this evil is fortitude on the part of the owner. Steers can be grazed to excellent advantage on the mountain lands. They can be fed in the valleys in the winter on silage and other cheap roughness and finished on these rich grazing lands in the spring and summer and be ready for shipment to Eastern markets in the fall. By managing the steers as suggested beef should be produced at a very low cost, and considering the ease with which it can be made as compared with the greater labor of the dairy and the greater care and vigilance necessary in the management of sheep, it is somewhat doubtful as to which method of farming would show the largest profits. Any one of them, however, can be carried on to good advantage on the lands in question.

Knoxville, Tenn.

VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Rupture.—Please give directions for castrating pigs with scrotal hernia; also for rupture in the belly—pouch at navel.

Lincoln, Mo. J. H. EYERLY.

We would strongly advise you not to attempt the operations yourself, as pigs do not stand operations well, and operator should consequently be an expert. In castrating pigs ruptured in the scrotum the "covered operation" should be performed. This consists in splitting open the skin of the scrotum but not the coverings of the testicles. Then apply clamps on the cords, including the envelopes referred to and allow parts to slough off. Another method is to return the bowel by manipulation, then carefully remove the testicles through very small opening and at once sew up the wounds in envelopes and then in skin of scrotum. The covered operation is the safer plan of the two. Small ruptures at the navel (umbilical hernia) should be let alone, as pigs will usually grow out of them. If an operation is indicated by reason of the rupture steadily increasing in size, put pig on its back, return bowel by manipulating with fingers, then pass a steel skewer through the pouch of skin and another skewer intersecting it to form an X, the centre of which is the centre of the rupture. When the skewers have been put in place wind a cord tightly around them so as to shut off circulation from the skin thus ligated and sloughing of the skin will take place in from two weeks to twenty days and lead to obliteration of the orifice in the abdominal wall. A little pitch or pine tar should be applied over the seat of the operation when completed.

Septic Metritis.—My cow had her first calf on the 20th of January last; was then 2½ years old. Cleaned all right and gave 8 quarts of milk a day. She always seemed to be in good health until the evening of May 2, when she refused to eat, and didn't give a drop of milk. She was expelling from the vagina a quantity of vile smelling stuff which looked something like curdled milk, but gray in color. I gave her a dose of glauber salts. She laid down still and quiet and died eight hours afterwards. Do you think this disease is contagious?

Pine Lawn, N. Y. H. C. HANSEN.

The case is a most unusual one, as septic metritis (inflammation of the womb from poisonous matters) seems to have been the trouble. This is most commonly seen much sooner after calving than in this case, and may be due to retention of the afterbirth or a part of it, which you say did not occur in this case. Taking everything into consideration we should judge that an abscess formed in the womb or vagina and ruptured, discharging the decomposed pus referred to. It was evidently gangrenous and from it the cow could absorb sufficient poisonous matter to cause death from septicæmia. We think there is no reason to suspect that the disease is likely to occur in other cows but if she was bred it would be a wise step to disinfect the sheath of the bull once daily for a week with a gallon of warm water containing half an ounce of sulphate of zinc and two drachms of carbolic acid. If the bull served her and has since been used on other cows it would also be well to wash them out with two gallons of a 1-1000 solution of chloride of zinc if they are not in calf and externally with the same solution once daily if they are in calf. This should kill any germ that may have been carried to them by the bull and which would be likely to cause abortion later on. It is in conditions like that of your cow that abortion germs are most liable to find a breeding place and they are easily carried to other cows in discharges or by the bull. Clean up and thoroughly disinfect the place occupied by the cow and the floor upon which the discharges fell.

Enteritis. — A registered, large English Yorkshire sow was running on a patch of volunteer oats; turned cold suddenly, freezing the oats. I saw her eating them while frozen. Next morning she was dead. 2. Have about 40 half breed pigs, ranging from pigs to 125 pounds; all white. In windy weather during March these shoats' skin would crack behind their ears and bleed; some got well, but I have 4 or 5 of the larger ones that this continued on up the neck, mostly on top, and is now midway of back and half way down their sides. The skin is cracked open and thickened. Cracks one-eighth of an inch deep. Otherwise they seem perfectly healthy. Have always had dry sleeping quarters. Is this mange? Have heard white hogs would not do in the South. Am I too far south to raise white hogs—Central Missouri?

Columbia, Mo. EDW. EASLEY.

1. There can be little doubt that the frozen oats caused the death of the sow from enteritis (inflammation of the bowels). 2. Pigs have a skin disease probably more due to corn feeding than anything else and aggravated by rubbing with boiled linseed oil, which is quite unfit for the purpose and poisonous. If you will feed less corn, shelter the pigs in hot weather and feed plenty of succulent food throughout the year we think there should be little trouble in raising white hogs in your part of the country. To the skins of affected pigs apply as a lotion well rubbed in, a creamy mixture of flowers of sulphur and castor oil or cottonseed oil. At outset of another attack of this disease in young pigs try the effects of a 2 per cent. solution of permanganate of potash. The trouble often starts on the face and in the mouth, as a canker, and dipping the heads of the pigs over and over again in this solution for several successive days or until cured, has proved the most effective treatment. In older hogs we find that a drachm dose of hyposulphite of soda in the slop twice daily is also helpful. Bowels are to be kept freely open, even if epsom salts have to be used for the purpose.

Ringbones.—I have a horse 6 years old, which has a hard swelling just above the hoof on all four feet. It has been there since a colt, and it makes him lame.

Waldport, Ore. A. C. BEAMER.

A horse with ringbones all around may be considered practically useless and incurable. Even were the ringbones to respond to treatment the gait would never be correct and horse would be of little use except for work on soft land. Ringbone of the hind coronets is bad enough but when the bony growths appear upon the forefeet and cause lameness the lameness is usually incurable and unnerving has to be resorted to. The case illustrates the error of breeding animals having ringbones, for the trouble is hereditary and transmissible to progeny. If you desire to further trouble with the case, puncture firing and blistering should be resorted to. But one ringbone should be fired at a time, as it would be extremely cruel to fire all the feet and so give the horse practically nothing to stand upon. The proprietory medicine could not possibly cure such a case, for it is always a difficult and tedious matter to cure ringbone lameness even by puncture firing and blistering, which is the best treatment. The cure of lameness in such cases is dependent upon procuring an ankylosis or union between the small bones of the pastern and coffin joint and this can only result from deep puncture firing and blistering followed by a long rest.

Ascites. — About four weeks ago we noticed that cow was not well. She ate her feed and did not seem very sick at any time, but during the last four weeks seemed to be very much bloated. Could walk only a short distance at a time, then stopped to rest. Finally, one evening, we gave her about one pint of linseed oil. The next morning she was dead. We had her examined and found that the stomachs, intestines, etc., contained not less than one and one-half barrels of water, and very little else. She would have calved in about two weeks.

Otelia, Pa. MAUDE GIFFORD.

It seems improbable that the large amount of water stated was in the stomachs and intestines. We would suspect that this water or serum was in the abdominal cavity, constituting abdominal dropsy. This disease would produce exactly the symptoms you describe and cause death in about the time she was noticed sick. We have never seen a case where there was a barrel and a half of water in the stomachs and intestines, but many where it was in the abdominal cavity. Wish you would write again and state if a mistake was not made as to the location of the water. Were an animal to drink an abnormally large amount of water it would pass through her in the form of diarrhœa. In ascites the usual cause is chronic peritonitis and this is usually associated with heart disease (vulvular insufficiency), or some complication of the liver. In any case there was no hope for the cow, ascites being incurable, so you have the satisfaction of knowing that the dose of linseed oil did not kill her, unless you used boiled linseed oil, which is poisonous. We are unable from your description of the case to give a different opinion than the above but will be glad to consider the case again should you be able to give any further particulars in regard to the case.

Leg and Body Wash.

When it comes to stiffness and soreness of muscles, tendons, etc., nothing equals

Tuttle's Elixir

for restoring normal conditions. Apply to the body as a mild sponge bath and put on light blanket. Sponge the legs and put on light bandages.

Used and Endorsed by Adams Express Company.

Tuttle's American Condition Powders
—A specific for impure blood and all diseases arising therefrom.
TUTTLE'S FAMILY ELIXIR cures rheumatism, sprains, bruises, etc. Kills pain instantly. Our 100-page book, "Veterinary Experience," FREE.
Dr. S. A. TUTTLE, 28 Beverly St., Boston, Mass.
Beware of so-called Elixirs—none genuine but Tuttle's.
Avoid all blisters; they offer only temporary relief, if any.

GOMBAULT'S CAUSTIC BALSAM.
Removes Spavin, Splint, Capped Hock, etc.
The Lawrence-Williams Co., Cleveland, O.

On the Big Ranges

Chloro-Naptholeum Dip is the main stand-by of the big breeders for curing scab, killing lice, ticks and other pests. It is used by all the experimental stations of the country. There is a reason for this. And their reason should be your reasons. Chloro-Naptholeum Dip does the work better, is safer, surer, and cheapest in the end. It will do for your sheep, cattle, hogs and poultry exactly what it is doing for the great Western breeders. One gallon costs $1.50, 5 gallons, $6.75, 10 gallons, $12.50; freight charges prepaid. We guarantee it will kill lice, ticks and cure sore mouth, foot rot, scab, and other parasitic diseases. Money back if it does not give successful results, and better than you ever had. Every prosperous agricultural centre has a Chloro-Naptholeum agent, but if you do not find him, write direct to The West Disinfecting Co., Inc., 15 E. 59th St., New York.

They quote all customers of Chloro-Naptholeum Dip special rates on sheep dipping tanks, so low in price that everyone can afford to buy them.

Chloro-Naptholeum DIP

HEY, THERE! JUNK MAN!

I want to know how much you will give me for one of those separators that claim to be "just as good" as the

DE LAVAL CREAM SEPARATORS

I put in one of them last year because the agent claimed it was "just as good" as a DE LAVAL machine and was $10.- cheaper. I have looked about and gotten some separator experience since then and I find now that I could have bought a DE LAVAL machine of greater actual capacity for less money in the first place, while I have lost money every day through the imperfect skimming of this machine, aside from hard running and trouble of all kinds from infernally poor construction.

I am going to have a DE LAVAL machine now if I have to "junk" this old one for scrap-iron. I know it will save its cost the first year of use and should be good for twenty years. I find all well-informed dairy farmers are using DE LAVAL machines and that there are over 400,000 of them.

A De Laval catalogue may save this experience.

CHICAGO
PHILADELPHIA
SAN FRANCISCO
MONTREAL
TORONTO
WINNIPEG

THE DE LAVAL SEPARATOR CO.
General Offices:
74 CORTLANDT STREET,
NEW YORK.

Metritis.—We have an alderney cow that dropped her sixth calf the 27th of April. The calf was taken from the cow three days afterward. The cow had a regular flow of milk and was milked twice a day. On the morning of May 4th she refused to eat, gave about a pint of milk, was cold to the touch, horns cold, had no visible chill, no indication of suffering. She stood and laid around, eating nothing; drank one bucket of water. Next day she did not get up; still felt cold to the touch and died about 11 o'clock in the forenoon without a struggle. SARAH HAYS.

Newberrytown, Pa.

While it is not uncommon for milk fever, so-called, to come on as late as seven days after calving, it is more probable that death in this case was due to inflammation of the womb (metritis). In milk fever the animal loses consciousness and is paralyzed from the first. In metritis the symptoms are such as you describe and the animal gradually becomes weak and dies without evincing much, if any pain. The usual cause is infection of the vagina and womb at or after calving, or from decomposition of the afterbirth or a portion of it allowed to remain in the womb. It is a good precautionary measure in all cases of calving to flush out the vagina with two gallons of milk-warm 1-1000 solution of chloride of zinc or 2 per cent. solution of permanganate of potash just after calving and once daily afterwards until cow is well. This is a preventive of metritis so long as part of the afterbirth is not retained. In case of retention of the afterbirth it is necessary to inject the solution directly into the womb and this plan will often lead to expulsion of the afterbirth. If it does not come away promptly after the injection then it is necessary to remove it by hand, and afterwards inject the antiseptic again, or place a pound or so of fresh, unsalted lard in the womb. The lard melts, soothes the inflamed lining of the womb, and tends to bring away particles of afterbirth, etc., which, retained, would be apt to set up metritis. When you noticed the cow sick prompt use of the antiseptic injections together with stimulants, such as brandy, in four ounce dose with fluid extract of black haw in one to two ounce dose every four hours in coffee or thin oat meal gruel, might have saved her, but such cases are to be considered very fatal, and prevention is the proper course. For this reason, in future always see to it that a cow calves in a clean, disinfected, whitewashed, fresh bedded box stall and use the antiseptic solution as advised. It can be injected by means of a fountain syringe or half-inch hose attached to overhead pail.

Skin Trouble.—I have a Jersey cow in fair condition, eats heartily and gives usual flow of milk, but has small lumps form under skin, that terminate in a dry, hard scab.

Lancaster, O. B. L. PHILLIPS.

This disease proceeds from indigestion, but the cow can be cured. As the best medicine for the trouble is Fowler's solution of arsenic, we would advise you to discontinue use of milk while she is being treated. If she is not given this medicine there is no reason why the milk should not be used for human consumption, with the exception that an infant should never be given the milk of a cow in any way afflicted with indigestion. If you can do without her milk then give her, to start with, a pound dose of epsom salts and one ounce of ground ginger root in two quarts of warm water and when physic ceases to operate follow with half an ounce of Fowler's solution of arsenic twice daily for a week, then three times daily until she is much improved, then gradually decrease the dose until she is doing without the medicine. Arsenic should never be suddenly stopped, as animals that have been receiving it do badly without it when suddenly deprived of its effects. If you do not care to do without the milk then give the physic and after its action ceases give two ounces of hyposulphite of soda and two drachms of flowers of sulphur three times daily in the food, for ten days, then twice daily for a week or two, or until she shows no signs of the skin disease. As a wash for the skin you will find a solution of one drachm each of sulphuric acid and carbolic acid in a pint of water admirable if skin is itchy; if not itchy then substitute a wash of Chloro-Naptholeum one part, soft water one hundred parts, and keep the skin well curried and brushed. See that the cow is kept in a perfectly clean, well ventilated, whitewashed barn and avoid all sudden changes of food. If you have been feeding corn it would be well to gradually change the feed, leaving out corn and substituting such foods as shorts, oatmeal and flaxseed meal along with hay and fodder. Green foods often have the effect of aggravating the trouble, so that it would be well to go slow in feeding them.

Indigestion.—I have two fine Berkshire sows due to pig in three weeks, that have been confined in small woods lot, fed on house slops with bran, and corn and pea meal. They are hearty and thrifty, but as soon as they are done eating they hurry away from their trough and root and eat dirt awhile. They must want something in their feed that they do not get; if so, what do they need? I have two young, growing hogs confined in a shed adjoining my cow stable, which are fed on the same kind of feed; they are continually trying to root under and get the manure, which they chew up. What should I give them.

Crouse, N. C. J. FRANK WARLICK.

You are forgetting that the hog is a born grazier, and when allowed liberty finds in the earth many things that tend to prevent indigestion. These roots and alkaline matters are antiacids, as a rule, and are the best possible correctives for the stomach. As it is you are confining the hogs and feeding generously upon rich foods which supply but a part of the needs of the body. Exercise is imperative if we are to keep hogs healthy, and that exercise should be taken upon green grass, clover, rye, rape, etc. It is also best to provide a hog lot of such food where the hogs may root and not really do harm. The ringing of hogs is unnatural and often injurious, as it prevents them from finding the natural remedies we have referred to. It is found, however, that where hogs have plenty of pasture along with an adequate supply of other foods that they do not root much. They root most when suffering from some form of indigestion or dyspepsia, which makes them desire alkaline matters. In this condition we give four ounces of epsom salts to each hog, in milk or slop, as a physic, and after it has operated follow with a drachm dose of hyposulphite of soda two or three times daily in food and also supply powdered wood charcoal freely and mix limewater in the food and drinking water. It would also be advisable to give the hogs some dried blood meal or tankage in their other food, as it furnishes such a large percentage of protein in a digestible, assimilable form at a small cost. For the present we would advise you to stop feeding corn and pea meal and substitute middlings and flaxseed meal, adding the dried blood meal. Commence with the latter food slowly, giving but a teaspoonful in each feed at first and gradually increasing the amount as the animals become accustomed to it. What has been said, however, does not remove the necessity of green food, and if you cannot supply pasture try to furnish, in the future, some succulent food, such as roots or ensilage, to keep the bowels freely open. There may be other green crops in your district that can be more easily supplied.

Knuckling.—I have a 3-year-old driving mare that stands on her hind pasterns part of the time, as though she was knuckled; more so after a drive; travels well. In good condition. Will shoeing her with toes on shoes and no calks help? WM. WIRTS.

Ansonia, O.

In most cases of this sort the tendons at back of legs are strained and sore from overdriving, but in some cases the trouble is due to overforcing with feed while young. Standing on an inclined stall floor is also detrimental and liable to cause or aggravate the condition. It is therefore always advisable to place such horses in a roomy box stall where the floor is level. Twice daily rub the tendons well with the following liniment: Aqua ammonia, one ounce; soap liniment, four ounces; extract of witch hazel enough to make one pint; shake well. After the leg has dried apply a derby bandage from foot to hock. Do not put it on very tight; merely have it fit snugly and always remove it at least twice daily. It is to be put on after the rubbing and when horse has come in from work. As the mare is but three years old it would be well to allow all the rest possible and unless you need her work it might be best to rub the tendons night and morning while she is allowed a run on grass without work. In this way she would be likely to grow out of the trouble, whereas, if worked, it may aggravate despite treatment. Shoes should not have long toes. Keep the toes of hoofs short and build up the heels or put on shoes having small heel calkins but no toe calkins. This relieves the strain and helps to cure knuckling, strange as this may appear to one who has not had experience with the trouble. When using the liniment if it is noticed that the skin is becoming blistered under the bandage quit use of liniment for some days and rub parts with unsalted lard, or reduce the strength of the liniment slightly by addition of more extract of witch hazel. In some horses the skin is abnormally sensitive, so that it is difficult to prescribe the proper strength of liniment.

Cough.—Have a hog about 8 months old affected with a cough; hog in good condition; appetite good. Feed white and red shorts mixed. What is the probable cause and what would you advise? J. C. NESBIT.

Shepherdstown, Pa.

The causes of cough are so numerous that it would be impossible for us to state definitely exactly what is the matter here. As mentioned in a recent issue, dust in the bed or yard is a common cause; worms also frequently give rise to a cough and especially hogs of the age of the one in question. It would be well to have the hog run on grass or clover and keep it away from dusty places and all food that is tainted in any way, such as mouldy or heated grain or sour swill, etc. Glyco-heorin in drachm doses is very effective in cough due to throat or bronchial irritation, but when worms are present turpentine should be given in milk two or three times a week at the rate of one teaspoonful for each hundred pounds of live weight. Other useful medicines are chloride of ammonia in ten to twenty grain dose in the food twice daily and fluid extract of belladonna leaves in two to five drop doses three times daily in a little slop or milk. Where the throat is sore, as shown by aggravated coughing when the throat is squeezed by the fingers, a blister may be applied or a strong liniment rubbed in, such as equal parts of turpentine, aqua ammonia and raw linseed oil well shaken together, to be used once daily.

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THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

Talks on Timely Topics.

Garden Potatoes.—New potatoes, during the early part of the potato season, usually bring a good price. If we have to buy them, at that time, it means paying out a considerable sum of money. If we have a surplus to sell then, it means quite a little sum of money in our pockets. For these reasons I always take particular pains with my early potatoes, may these be Early Ohios, Bovees, or any other first early. I know of nothing earlier, and for our somewhat strong loams, more reliable than the old Early Ohio. I always "green" my Ohios, by spreading them out in March in a more or less sun-exposed spot, safe from late frosts, as for instance, in the greenhouse or in a garret, and then plant at least a few rows in the garden as early as may be in April, so as to have some early potatoes of good quality to dig along in July and during August. The Ohio is well suited to strong garden loams, and by planting them rather close, say a foot or 15 inches apart in the rows, the rows being made not over three feet apart, and perhaps even a few inches less, I often manage to secure yields of close to or upwards of 300 bushels to the acre. Thus, after middle of July, we always know where to get our supply of new potatoes for the house. All we have to do, when we want a mess, is to take the few steps to the garden and dig a few hills. It is mighty convenient, and very economical besides. I will have the few rows in the garden, no matter how big a patch I may have elsewhere for market or winter use. Some of these early sorts are of fine quality. Our Ohios were fully ripened last year, and our people preferred them for cooking, all winter long, to the late potatoes, dug, last fall, before they were fully matured, in order to save them from blight and rot. The great advantage which our early potatoes have over the late ones, is that they are planted in highly tilled soil at a time when the soil as yet contains its normal moisture. Just at this time, for instance, the ground where not plowed very early and kept in high state of tillage right along up to this time, is dry and parched, in fact, so completely deprived of moisture by the uncommonly hot and dry weather of May that it would be absolutely useless to plant potatoes now in newly prepared ground. There is not moisture enough to make them germinate. At the same time the few rows of potatoes in the garden, and the larger patch planted a couple of weeks ago in good loam, have all the moisture they need for weeks to come. Those in the garden, in fact, would, with continued good cultivation, make a crop, even if we should not have another drop of rain this summer.

Insuring the Potato Crop.—In a recent bulletin (No. 221) the New York State Experiment Station attempts to give an answer to the question: "Shall potato growers spray?" The answer is based on the results of the potato spraying experiments made during the past season (1902). The Station argues, and undoubtedly with good reason, that spraying is even more than an insurance. A farmer nowadays rarely neglects to insure his buildings and stock against loss by fire. Yet many barns and dwellings have stood for fifty years or more unharmed by the devouring element, so that all money paid out for premiums has been an outlay without return. "How many growers of potatoes," the bulletin asks, "have raised the crop for ten successive years without suffering severe loss from blight or rot? Very few, indeed, can report continued immunity from destructive attacks of these diseases; and careful investigations show that there are almost no seasons when the potato crop is not considerably lessened by almost unnoticed injury to foliage and vines through fungus troubles which may easily be prevented by spraying. Merely as a matter of insurance against the occasional destructive attacks, the application of Bordeaux mixture each year is a profitable venture; for one crop saved from the heavy loss or complete destruction which follows the outbreaks of late blight, as that which occurred in many parts of the State in 1902, will repay the expense of many previous sprayings. But spraying is more than insurance against these severe attacks. It repays its cost every year. This last statement is proven true by very careful, thorough and long-continued series of experiments abroad and in America, both in New York State and in several sister States." It is likely that the damage, year after year, has been much greater than the average grower has realized. Vines have probably been touched by the early blight nearly every season, and the small brown spots on the leaves which characterize it, by destroying no inconsiderable part of the plant's starch factory, have materially lessened the crop. Flea beetles have punctured the leaves, consumed part of the juices which should go to build up tissue or tuber and also destroyed leaf surface which is needed to elaborate more starch. Colorado beetles have probably not been completely controlled by the most thorough applications of Paris green, and in some cases, the burning of the leaves due to heavy applications (to make a sure thing of killing the bugs) added another injury to the already long list. The sure advantages resulting from spraying with Bordeaux mixture are enumerated by the Station as follows: Properly made Bordeaux mixture, thoroughly applied, will completely prevent both early blight and late blight or rot; it will drive most of the flea beetles away to untainted feeding grounds, and when combined with poison, will even kill a few of these destructive, but often overlooked, little pests; applied in the Bordeaux, Paris green will be more thoroughly distributed than it can be in any dry application, and the lime in the mixture will prevent any burning of foliage. Thus the Bordeaux mixture, by checking or preventing several small losses, increases the value of the crop every year more than the materials and labor cost. At the same time it appears to exert a specific effect upon the vigor of the plants, and aside from repression of injury, adds both quantity and quality to the product.

Highly significant were the results which the Station obtained last year at Riverhead, L. I. Neither diseases nor "bugs" were at all prevalent, and most growers would have said that the treatments were completely thrown away; yet the unsprayed rows yielded at the rate of 267 2-3 bushels, those sprayed three times, 295 1-3 bushels, and those sprayed seven times, 312 bushels. In this case, then, under conditions when very little advantage was to be expected from spraying, three applications gave a gain of 27 2-3 bushels per acre, and seven applications a gain of 45 bushels.

I learned a lesson in thoroughness of spraying last season by seeing how the applications were made at Geneva. Hardly a leaf could be found on the plants that was not completely painted with the lime-copper stains. The Station gives the following directions:

"Commence spraying when the plants are six to eight inches high and repeat the treatment at intervals of about two weeks as long as plants remain green. Usually 6 to 8 applications will be required. Use the 1-to-8 formula Bordeaux mixture (6 lbs. copper sulphate to 50 gallons water) adding Paris green or other arsenical poison when 'bugs' are plentiful. Thoroughness of application is to be desired at all times, but is especially important when flea-beetles are numerous or the weather favorable to blight. When a horse sprayer is used there should be two nozzles for each row. Those who wish to get along with three sprayings should postpone the first one until there is danger of injury from 'bugs' or flea-beetles, and then spray thoroughly with Bordeaux and Paris green. The other two sprayings should likewise be thorough and applied at such times as to keep the foliage protected as much as possible during the remainder of the season. Very satisfactory results can be obtained from three sprayings. A single spraying is far better than none and will always be profitable; but more are better. There is no excuse for using Paris green alone for 'bugs.' Whenever it is necessary to fight insects use Bordeaux containing Paris green." I believe that here is one of the most important topics that could be presented to the market gardener and potato grower just now.

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Current Comments.

Remedy for Melon Lice.—Walter T. Olderworth, Clayton, (?) — "I have never found anything regarding the destruction or prevention of melon lice. I have a fine patch, and unless killed by lice, they will be very early and profitable. Can you tell me of any remedy? Some farmers in our vicinity have used ammonia without much success." A reply to another query on this subject has already been forwarded to the publishers, and probably will have appeared before this gets into print. We can hardly expect to do much in the way of prevention, but must rely on remedies. Possibly the free use of tobacco dust will have a tendency to keep the green fly away from your melons, but this preventive would have to be used freely and frequently, and would require larger quantities than would be profitable to use in this way. Thus the only thing left for the grower to do is to watch his vines very closely, and be ready to spray on the first sign of green fly on the plants. As the underside of the leaves is where the enemy congregates, the spray must be applied from underneath and upwards, using an angled shank to the nozzle. Spray with kerosene emulsion, carefully made to avoid injury to the foliage, or, better, with a strong tobacco tea. Possibly a mere suds made of Ivory soap, applied rather warm, will also dispose of the lice.

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Notes from a Carolina Garden.

The potato beetles migrated to the tomatoes after the early potatoes were dug, and as I do not care to use Paris green on them with large tomatoes on the vines, we are picking them off by hand, which is a tedious and unpleasant job. The drought that stopped all planting and stunted the vegetation has been brought to a stop by nice showers, and we are once more planting succession crops. The Early Valentine beans will soon be ready for the table, and I have planted where the early peas came off some of Dreer's Wonder bush beans as a comparison with Wood's, which last year were very fine. Charleston Wakefield cabbages are now being used, and some of the heads are immense for so early a cabbage, much larger than the ordinary type of Wakefield. Harbinger peas are now full though planted late, and though only about six inches high they promise to bear all that they can. These little peas could be planted in rows a foot apart and in this way would probably make as fair a crop as some of the taller sorts, and will be very useful for small gardens. The old strawberry bed will now be plowed under and other crops planted. Lime will be applied to prevent souring of the soil from such a mass of green, and by planting a crop like sweet corn we hope to have no trouble. Owing to the wet and cold of the early season tomatoes are late and the first fruits will hardly appear on the table till the last of June unless they ripen faster than usual. Onions are now out of the ground and sweet corn is going in the place they occupied. This is the crop of onions grown from fall planted sets. The transplanted Prizetakers are, of course, still small and growing. Today I planted some peas sent me by a friend in Tennessee. They look like the little pea known here as the Lady pea and commonly grown for table use. But he assures me that these are the rankest runners of all the cow pea family, making vines 20 feet long, and also an immense crop of seed. They were originally, he says, brought from Mexico. I hope that they may prove to be valuable as a field crop, and if so it is probable that the P. F. readers will hear from them. We are planting today the Zig Zag Evergreen sugar corn, and hope for success with it, for it is the type of excellence among sweet corns. In the flower garden the Japan iris are now coming in with their gorgeous flowers. They love moisture and I have them planted in a little dell near a spring, where no drought can affect them. The main bloom of the red Amaryllis Johnsonii is over, but there will be stray spikes now and then all summer. The first rush of the tea roses, too, is over, and they are making growth for the later bloom. The gladioli are throwing up their flower spikes and will soon make a gay appearance, for I have hundreds of them. From now to August is the time for planting the fall blooming bulbs of Sternbergia and Nerines, and ours will go into the ground within a few weeks. There is a general failure with these, for the dealers send them out in the fall catalogues, when they should be in bloom, and the result is no flowers. They should be catalogued in spring with the notice that they are not deliverable until June or July.

Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Birds and Small Fruits.

A lady correspondent wrote this department recently, asking what to do to prevent birds eating her currant and other small fruits. The following extract from an English horticultural magazine will interest her, and will, probably, enable her to preserve the fruit from the birds:

"Birds and Gooseberry Buds. — We have for many years past used, at the end of October or beginning of November, what is known as 'Royle's threader,' which can be bought from any nurseryman or seedsman. It is a stick with a handle, like the centre part of a common weaver's shuttle, and carries what is known as a 'cop,' such as is used for ordinary weaving. The end of the cop thread is taken along the stick, coming out of a small hole in the top, and this is waved about the bush so as to cover the branches with threads. These, although white at first, become discolored by the weather, and are practically invisible. When this is done no bird will settle on the branches, the first touch of the thread on their feet frightens them away, and we find the buds are absolutely untouched. We have lent our threader to many neighbors who had their bushes completely stripped of buds and practically destroyed until they used this, now they have as good crops of gooseberries as ourselves, and our crops are so large that we have to use quite one-half of the berries whilst they are very small, as the bushes have more fruit on than they could carry, and grow to a good size. The 'Royle's threader' is not a necessity, as a home-made arrangement is easily made, and the cops can be bought separately at a very small cost, but it is a very convenient form, and the thing itself is so cheap that it is hardly worth while to attempt to make one."—Thos. Fletcher, Grappenhall, Cheshire.

"[This was also our only cure at a place where the bushes had become all but destroyed. The crocus groups in Hyde Park are all threaded with excellent results.—Ed.]"

It will be observed that this was to preserve the buds of the bushes. It should be as effectual in the insuring of fruit. Fruit being less abundant in the European countries than here, more pains are taken to secure it. Many of our fruit growers would not take time to weave thread about their fruit bushes, but if they would the extract given above indicates it would be a success.

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Horticultural Queries.

Various Queries. — 1. Will wrapping fruit trees closely with paper protect them from borers? If so, when should papers be put on? 2. Will screen wire do the same thing? 3. Will there be any reason why I should spray my orchard this year, part planted this spring and part two years ago? 4. I saw the following statement in the Inland Farmer: "The crab apple is the parent of all our most highly prized varieties." Is this true? 5. Also the following in "Elements of Agriculture," by J. B. McBryde: "All of a plant's nitrogen supply is taken in through the roots." W. C. Rodgers.
Milan, Mo.

1. Screen wire is better than paper. Anything that prevents access by the insect is effective. Place the wire two to three inches below ground and a foot or so above it. Just below is where the borer usually works. It is not practicable to use poison. 3. Yes, you should spray right along, if only to keep the trees healthy. Orchardists hereabouts spray continually. 4. It is only true in the sense that the crab is that from which cultivated apples originated. No one uses it now for the production of new kinds. The latter come from seeds of cultivated sorts. 5. Yes, practically it is true, as almost all of a plant's food comes from what the root supplies. A little is absorbed by the leaves.

Raspberry.—Can you tell me where I can get a few plants of Brinckle's Orange raspberries? Mrs. Henry Comer.
Athens, Ga.

There are but few nurseries keeping this raspberry. The only firm I know of is that of Ellwanger & Barry, Rochester, N. Y. It is advertised in their catalogue. If you write them mention that you were referred to them by the P. F.

Strawberries and Figs.—I am lacking information in regard to the cultivation of strawberries, and also figs. A. B. Finley.
Douglas, Ga.

In your State strawberry runners set out in Autumn should give you a good crop the following spring. In the North spring planting is preferred. Set them in well prepared ground, free from weeds, three feet apart for field culture. As you have but little hard freezing weather, there is nothing to tell of fig culture beyond the setting of the plants, which do in spring. In the North directions for winter protection are necessary. A few degrees of frost does not hurt them, but they will not stand in the North without protection. If you were to get Greiner's "How to Make the Garden Pay" from the publishers of the P. F. you would get knowledge of everything worth knowing about strawberries and their cultivation.

Propagating Trees.—I have some trees and shrubs I should like to propagate, but do not know how it is done. They are mountain ash, laburnum, Japanese quince, deutzia and evergreen honeysuckle. Can you give me the method of each? T. C. O.

The mountain ash is increased by sowing the berries when they are fully ripe, in August or September. Laburnums are raised from seeds, sown early in spring; Japanese quince must be increased from root cuttings. In early spring dig up roots, cut them into 4-inch lengths and bury just under ground. Deutzias are multiplied by making cuttings of the long shoots, in winter, eight inches in length, keeping them in a damp cellar in damp earth until spring, then planting them out. Set them that they project three inches above ground. If it does not freeze of any account in winter, set the cuttings as soon as made. If you bend the shoots of the honeysuckle under ground here and there, they root readily.

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Horticultural Notes.

Wistarias are almost too coarse for ordinary porches, but splendid vines where room can be given them. The Chinese is the best, its large racemes of light blue flowers being both beautiful and fragrant.

Swamp Maple.—Red, or swamp maple, and nearly all elms ripen their seeds in early spring, and if sown at once, nice plants result by fall. If not convenient to sow them at that time, keep in a damp place and sow in Autumn. But sown as soon as ripe is the better plan to follow.

POULTRY.

This department is under the editorial charge of A. F. Hunter. All letters, inquiries and requests should be addressed to him at the Practical Farmer office, P. O. Box 1317, Philadelphia.

Poultry and Trucking Near Norfolk, Virginia.

A Connecticut reader tells us that he expects to visit Norfolk, Va., soon to study that section with the idea of engaging in market gardening and poultry and egg production, and asks quite a variety of questions.

First, "Why are Southern eggs always quoted lower than others in New York markets? 2nd. Would shipments of Southern eggs of uniform good size, color, etc., that are clean and were known to be fresh bring a price equal to nearby eggs? 3rd. Can you give me any information regarding profits on poultry for eggs in that section as compared with Connecticut? 4th. With the extremely low prices for ordinary poultry in the Norfolk market, and with their methods of selling alive, is it probable that there would be any profitable local market for capons? 5th. Would Norfolk capons compete with nearby shipments in Washington and New York? 6th. Where land is cheap, would you recommend detached colony houses, without fences? How many houses and hens per acre? 7th. What is the egg production by this arrangement as compared with yards and a supply of green food? There are great advantages in Norfolk as regards shipping; for instance, a thirty-dozen crate of eggs can be shipped to New York for 15 cents, or one-half cent per dozen. Other things in proportion."

The vicinity of Norfolk, Va., has many advantages, but is not a very desirable location for poultry raising; chiefly because the land is practically level and not easily drained, and dry land is most essential for best results with poultry. Have you not become fascinated by that fifteen cents per crate freight charges on eggs to New York? We would think you would sacrifice much more in getting the eggs to ship to New York than the comparatively small saving in the low freight charges. Southern eggs are quoted at a low price in New York markets because, first, they are small sized and inferior eggs. Second, because they are not shipped to market until they have grown stale by having been kept around the houses of the growers for a time and then stand on or under the counters of the country stores for a week or two, and by the time they reach New York markets they are a very poor quality of egg; it is in the very nature of things that such eggs should sell at a low price. If you make regular shipments of eggs of uniform good size, color and known freshness they would bring very nearly as good a price as nearby eggs, because they would be as good in quality as nearby eggs. It is quality that controls the price in all markets, and if you ship good eggs to market you will get a good price for them, no matter where they are produced. There is very little done in poultry raising in and about Norfolk, and, in fact, through the South generally, and there are many reasons for this.

There would probably be very little local market for capons, but there would be a market for them at the great hotels near Fort Monroe and at Virginia Beach. The profit from capons, however, does not depend upon the local market; if you will produce good capons you can sell them at a profit in Washington, New York or Boston markets, and the only handicap of being at a distance from these markets is the freight charges. We recently talked with a Boston commission dealer who had just bought 5,000 pounds of capons from Indiana shippers, and large quantities of high-class poultry is shipped to Boston and New York markets from as far West as Iowa; Illinois, Indiana and Ohio ship enormous quantities of poultry and eggs to those Eastern markets.

Whether we would conduct poultry farming on a colony house plan or with houses and yards would depend very much upon circumstances. Generally speaking, a better egg yield will be gotten from keeping the birds in semi-confinement; that is, in house and yards, and the labor of caring for them is less by that method. Certain it is that the majority of the large and highly successful poultry farms are carried on upon this plan. In your place, we would certainly advise you to stick to New England, unless you have some more special reason for migrating to Norfolk than appears in your letter. You can make more money and make it easier by raising good poultry and eggs right there in Connecticut, than you can make by egg and poultry growing combined with truck farming near Norfolk. The best markets in the world are right at your hand in New York and Boston, with the very best at Boston; and you can raise your poultry and eggs practically as cheaply in Connecticut as you can in Virginia, with a good many advantages in favor of Connecticut.

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Poultry Queries.

Feeding Chicks.—John W. Lewis, Homewood, S. C., writes: "Will you kindly tell me what you consider the best and most economical food for young chicks? After they are two weeks old they have plenty of range. The usual way where they have plenty of range on the farm is to give cracked corn, but isn't there something better?" There certainly is much that is better; indeed, there could hardly be anything poorer to promote growth of bone and muscle—and it's chiefly frame and muscle that you want to grow! Your letter is dated April 25th and crossed the P. F. of May 2nd, which had a full article on "Feeding the Chicks for Growth," which will help you, and another chick feeding article will appear shortly. Don't feed cracked corn exclusively! Chicks can't grow on such a one-sided food. Feed cracked wheat and coarse oat meal, and after chicks are four or five weeks old whole wheat. Oat meats (oat meal) is the best bone and muscle-building food, and add some meat or cut bone.

Egg Broken Inside. — Mrs. H. J. H., Rock Spring, Ga., writes: "Will the Editor please tell me what is the cause of hens dying from a broken egg? I have lost two the past week; found each dead on the nest where they had gone to lay, and on examination found the egg broken. Hens were real fat, as they have free range of the farm; run on green wheat a good deal and I feed them a good allowance of corn in the grain once per day. When I cut into the carcass found the intestines were very hot and the broken egg seemed to be actually cooked like a soft boiled egg. They were both good young hens. I am a subscriber to your paper and like it very much indeed." The primary cause of hens dying from a broken egg is that the birds are in an overfat condition and the egg making organs are weakened by that overfat condition; you have been feeding too much corn and a too concentrated food ration, and probably the birds have not had sufficient exercise. Another contributing cause to the breaking of eggs inside the birds is their flying down from a too high roost and striking suddenly upon the ground; the sudden jar causes the partially formed egg to fracture. There is nothing exceptional in the partially cooked appearance of what you found in the oviduct. Probably two or three eggs had been broken; they would gradually become mixed and would assume somewhat that appearance. Keep your hens from getting overfat, by feeding a suitably balanced food ration, as we have so frequently urged in this column, and you will have little difficulty over the eggs breaking inside. Prevention is the only remdy in this case.

Possibly Tuberculosis. — M. L. L., Molngona, Iowa, writes: "What do you think is the cause of chicks dying about three or four weeks old? They generally stay in the brooder, and if they go out they hardly move about; the feathers are standing almost straight out from the body, the movement kind of staggering and wiggling; don't eat much of anything, and sometimes those symptoms show up before that time. I would be very glad to get some information how to prevent such cases, and even on lively chicks feathers standing out from the body in about the same way." You give us absolutely no clue, excepting their staying in the brooder; it is much as though you should say "my chicks are sick, what is the matter with them?" It is possibly tuberculosis, caused by their being shut in a dark, too close brooder, with out good air to breath. The disease germs get a foothold and develop under just those conditions. You will find the conditions excellently described in Mr. Terry's "Health Hints" in the May 16th P. F.. He says: "It is a house disease. It is mainly caused by breathing impure and damp unwholesome air in buildings." For buildings read "not cleaned, unsanitary brooders," and you get the same applied to chicks, thousands and thousands of which go off in that way every year. Get the chicks out into the sunshine and let them run on the ground, catching bugs, insects and worms and enjoying life generally. Open the brooders to the sunshine and lift out the hovers and turn them up to the sunshine. Sunlight and fresh air are the greatest foes to disease germs; let the sunshine in and let (get) the chicks out into it. It may be a defective food ration or lack of grit and green food has deranged the digestion and caused the upset; write us more fully of your methods and we will try to help correct the evil. You certainly cannot raise chickens successfully or profitably under such conditions; you must correct them or go out of business, and the first step towards correcting the ill is to find the cause; write again.

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Philadelphia, June 13, 1903

Kaffir Corn.

We note from a correspondent in Kansas to the Iowa Homestead that the enthusiasm of the Kansas farmers over Kaffir corn is dying out. The Western farmers have already a superabundance of carbonaceous food material in the Indian corn plant. What they need is not something of the same nature as corn, but a crop that will supply the protein that the corn lacks and thus enable them to make a balanced ration without buying protein. The cow pea and the soy bean with alfalfa will do this for the Kansas farmer, and for the carbonaceous part of the ration there is no plant that can compare with Indian corn. In a very dry season the Kaffir corn and sorghum may help out, and it will be well to have some of them. But the main reliance there should always be the great corn plant.

* * *

The Importance of Bacteria With Legumes.

A Tennessee correspondent writes in regard to an experiment with alfalfa made by his brother. The land was a steep hillside, and while he says the plat will be largely a failure, he has learned something from it. His brother had been promised a culture of bacteria for the land but did not receive it. But a plant with nodules on it was sent to him as a specimen, and this he buried at the top of the hill, and in a few days the plants around it began to put on a darker green, while all around they were yellow and sickly, and now the route of the drainage from that plant can be traced down the hill in the line of green foliage, and the plants are from six inches to a foot taller on this line. Having thus inoculated a portion of the patch our friend can, with this earth scattered over another field, set up the growth of the bacteria. Those who have sown alfalfa this spring should now be watching it closely. If it looks yellow and weak put the mower on it at once and clip it over, and if possible get some soil from a field where alfalfa has succeeded and scatter it lightly over the land. Keep it clipped the first season and keep the weeds from smothering it, and then give it a dressing of lime in the fall or early spring and you will have the plants established. South of the Potomac always sown in late August or early September, and on good land you can get a crop the following spring. The time is near when the farmer in any section without a permanent alfalfa meadow will be rare.

* * *

Moonology.

A correspondent writes that he knows that corn planted in the light of the moon will grow up tall and make small ears, and that the crop will be much better if planted in the dark of the moon. He further asks our opinion in regard to the influence of the signs of the Zodiac. As we always cover our corn, so that the moonlight does not shine on it, we have never noticed any difference. We have noticed, however, that the men who plant by the moon and the signs seldom have any better crops than their neighbors who pay no attention to the moon. In fact, the man who gives his whole attention to the improvement of his land and then gives it the best preparation for the crop, will always make more corn than the man who studies the changes of the moon. We have been planting crops of all sorts for over 40 years, and it never yet has occurred to us to notice how the moon regarded what we were doing. The moon does not stop going round the earth when we no longer see her reflect the sunlight, and she is just as big then as when she was what we call full. Now as to the signs of the Zodiac, we have always thought that the man in the medical almanacs was in a bad way with the signs all around him. But we think that the man in the almanac is about the only thing on earth that is affected by these things. Good farming is a matter of this earth and its atmosphere, aided by the warmth which the sunlight causes in the soil, and if we give earnest attention to the condition of soil and air as they affect our crops, we need not know whether the moon shines or not, nor whether the signs of the Zodiac are pulling the almanac man to pieces.

* * *

Tobacco Growing and Tobacco Using.

One of our friends writes that as the P. F. had some time back a Special on tobacco culture we ought now to have one against tobacco using. This is a matter on which men differ. Few advise anyone to begin the use of the weed, but many are not prepared to condemn it entirely. The P. F. is devoted to the improvement of agriculture in all its branches. The crop of tobacco is a very important money crop in many parts of the country, and those whose income is derived from its culture are entitled to consideration, as well as those who derive their income from other money crops. The Tobacco Special was not for the consideration of any ethical question in regard to the use of the manufactured article. It may just as well be urged that the P. F. should not pay attention to other crops the after use of which we may not approve of. The hop crop, for instance, is mainly grown for the brewers, and while we may not approve of the use of beer, the interests of the hop growers is a matter properly within the range of the paper, and should be attended to. Rye is very largely used for making whiskey and so, also, is corn, and while this may not be the chief use of either, it is nevertheless a very large use that is made of these crops. We would like to see the evil uses of crops done away with, but every good crop can be applied to evil uses, and what men do with the crop is not for the paper, but we are trying to show men how to get larger crops of all these things in the most economical and successful manner. There are some wise and good men who have used tobacco all their lives, and there are others who have never used it, and we have thousands of both among the readers of the P. F. Hence we do not consider it a question within the scope of an agricultural paper. We are trying to help men grow crops and to increase the profit from their lands. What crops they should grow is a matter that each must decide for himself. Whatever the money crop of any section may be, the P. F. will always do its utmost to aid the growers of that crop. This is, we think, the true province of the farm paper.

* * *

The East Tennessee Farmers' Convention.

It has never been our lot to attend such an immense gathering of enthusiastic farmers as we met at Knoxville, Tennessee, May 21, 22 and 23. More than one thousand farmers gathered there and staid the whole three days. What was particularly pleasing to the Editor was the fact that in the whole assemblage, gathered from all the counties of East Tennessee, it was hard to find one that was not a subscriber to the P. F., and hundreds took us by the hand and said that they came largely to meet the Editor. Under the efficient management of Prof. A. M. Soule, the Professor of Agriculture and Director of the Experiment Station of the University of Tennessee, where the meeting was held, the programme was made very attractive. Prof. Shaw, of Minnesota, was there and entertained the audience with his lucid explanations in regard to stock and breeding, and one morning in a large pavilion he had various animals, scrubs and full bloods and showed them the whole method of judging cattle, thus giving them an object lesson that will not soon be forgotten. The "talking man" was there, too, and he had something to say in the discussion of the paper we read on the cow pea and its value to the Southern farmer. He did not like the cow pea, but said that clover was the greatest of legumes. We interrupted this gentleman and told him that we had not the slightest objection to clover, "But," said we, "why don't you grow it, for we have not seen a decent clover field in Tennessee?" The question brought down the house, and the talker subsided. We were afterwards told that we had hit him hard, for he had no clover nor peas either. For some reason or other there seems to be a general failure to get clover in that beautiful limestone valley of the Tennessee River, where one would suppose that it would thrive with ease. It is to be hoped that the earnest farmers we met at Knoxville will go to work to find out the reason for the failure. In the meantime we are glad to know that the majority of the farmers fully appreciate the great value of the cow pea in the South, and that they are growing them with success. One of the speakers invited to the Knoxville meeting was Mr. Clarendon Davis, a long-time reader and correspondent of the P. F. Mr. Davis's account of his improving an old farm in Alabama attracted great attention, and he told the Editor that he wanted him to visit his farm and see a farm that has been brought up under the directions of the P. F. As we were going to see our son at Huntsville, Ala., we accepted the invitation, and at Huntsville we drove out to Mr. Davis's farm, five miles from that town. This plantation had formerly been run down in cotton, and Mr. D. is endeavoring to bring it up as a wheat and stock farm. He is evidently succeeding. We estimated his wheat crop on 150 acres at near 5,000 bushels and do not think he will have less than 4,000. He is trying to breed up a Shorthorn herd, or rather a Polled Durham herd, and he will evidently get there. It has seldom been our lot to see a better managed farm, or one that evidently had been increasing in productiveness faster. The signs of the old red gullies are still in some places, but they are rapidly disappearing, and in its present condition the farm will compare very favorably with the best grain and stock farms in the Central West. It would be a revelation to some of our Ohio friends to see this evidence of good farming in the South. The beautiful valleys of Northern Alabama need thousands of such farmers as Mr. Davis, for the land there is naturally of the best, and only needs good farming to make a paradise of live stock. The valleys are beautiful and the hills abound in phosphatic rock which some day will be utilized. But to return to the Tennessee meeting. It seemed to us that in the great agricultural States north of the Ohio it should be easy to do what Tennessee is doing, and to have every year a great outpouring of the farmers for discussion. It shows well for Tennessee that they can there get out annually over 1,000 progressive farmers and keep it up, for this was the twenty-first session, we believe.

* * *

The Cream of the Bulletins.

United States Department of Agriculture, Washington, D. C. Farmers' Bulletin No. 164. Rape as a Forage Crop. By A. S. Hitchcock.

The great interest that has been of late felt in rape culture and feeding makes this bulletin a very timely one. It is a very important matter for the farmers in the Northern States to have succulent forage during summer and autumn when the clover and grasses are often deficient, and in the South where the plant stands the winter, it will be found of great value in taking the place of grass. Rape belongs to the turnip family and looks like rutabaga turnips so far as the tops are concerned, though it makes no tuberous roots. Its large, succulent leaves constitute the valuable part of the plant. There are many varieties. Some of them are grown only for the seed, from which oil is made, while others are grown for stock food. The Dwarf Essex rape has been more widely used in this country than any other, but the Victoria rape has given excellent results in New England and in the Northwest, yielding, as a rule, better than the Essex. At the New Hampshire Station it made nearly 50 tons of green matter per acre and in South Dakota 25 to 30 tons. Under average conditions a yield of 10 to 20 tons may be expected. It needs a rich, moist and loamy soil, and will usually do well anywhere except on light, sandy land. Any soil that will make good turnips, cabbages, wheat or corn will answer. It is a gross feeder and requires a large supply of nitrogenous food. In Dakota it was found that the crop of wheat succeeding rape was greatly helped by the rape. It is also a good crop on recently improved swamp land. The rape plantation should be near the grass pasture, so that sheep can be turned from one to the other to avoid the danger of bloating from the rape. Prof. Craig found that an acre of rape, with grain, will fatten 20 wethers in two months. The soil must be thoroughly prepared and fertilized if needed, with stable manure or commercial fertilizers. In the Northern States the seeding should be made from the first week in May to July. In the South, September and October are the months for sowing. Seed should be planted in rows wide enough to admit of horse cultivation. The garden seed drill can be used on small areas, but on large ones the grain drill with some of the feed spouts stopped, may be used. If land is clean and rich the drill may be used with all the hoppers open and no cultivation given. Under favorable conditions good crops may be made from broadcast seeding with 4 to 5 pounds of seed per acre. But the drilling in rows and cultivating is best. Then there is less waste in pasturing, as the animals will be inclined to follow the rows. Rape seed is mostly imported, but it can be well grown in the Middle South and on the Pacific Coast. On the Lower Columbia River, in Oregon, it has become a troublesome weed. The crop should have three cultivations at least. If the crop is cut it is best to follow with the cultivator to cause it to shoot again rapidly. A detailed account of the method used in rape culture in Oregon is given, for which we have not room here. The crop is usually ready for use in 8 or 10 weeks from the sowing, and is generally used as a soiling crop or as pasture. It is better for sheep than for cattle. It may be used as a soiling crop, but it is doubtful if it will take the place of plants already used for the purpose. Cut about 4 inches from the ground and only as much at a time as is to be fed at once. Rape has a high feeding value and fattens sheep readily. It also increases the flow of milk with cows, bu should be fed after milking to prevent tainting the milk. At Guelph, Canada, it was used for dairy cows and no taint was found in the milk. Cattle and sheep may be badly bloated on rape, and should have a full feed of grain before turning on the rape field. It is sometimes sown on grain fields in the spring to make pasture after the wheat is removed. This is recommended in the Northwest. Rape is a good weed destroyer, and will be an efficient aid in cleaning foul fields. It is also used as a table vegetable or greens. We have given but a brief sketch of the bulletin, since it is one that any farmer may get on application to the Secretary of Agriculture, Washington, D. C.

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A Year's Subscription to the Thrice-a-Week World or Hoard's Dairyman.
"Dairying for Profit, or the Poor Man's Cow."

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COMMERCIAL

Philadelphia, June 6, 1903.

WHEAT.—			
No. 2, red, spot	81½	@	82
No. 2, Penna. and Del	82½	@	83
CORN.—			
No. 2, spot and June	51½	@	52
No. 2, yellow, on track	55	@	55½
OATS.—			
No. 2, white clipped	42		
No. 2, white clip, choice	42½		
LIVE POULTRY.—			
Fowls, hens, per lb.	15		
Roosters, per lb.	10		
Spring chickens—			
1½ to 2 lbs., per lb.	26	@	28
Smaller sizes, per lb.	18	@	23
DRESSED POULTRY.—			
Fresh killed fowls, choice	13½		
Fresh killed fowls, average	12½	@	13
Fresh killed old roosters	10		
Fresh killed broilers, nearby	35	@	40
Fresh killed broilers, West	25	@	30
Frozen broilers, Western	15	@	22
Frozen roasters, choice	16	@	17
Frozen turkeys, young toms	19		
BUTTER.—			
Western creamery, extra	21½	@	22½
Western creamery, firsts	21½	@	22
Ladle packed	14	@	16
Prints, nearby, extra	22	@	23
Prints, nearby, firsts	21		
Prints, Western	19	@	22½
EGGS.—			
QUOTATIONS AT MARK.			
Nearby fresh, ret'bl crates	16½	@	17
Western, choice, free cases	16½	@	17
So. Western do do	16		

Recrated, 1@2c. above wholesale prices.

CHEESE.—

Receipts, 3,005 boxes. Arrivals were more liberal and the market declined ½c. under an indifferent demand and lower country advices.

N. Y., f. c. small—			
New, choice	11	@	11¼
Fair to good	10¼	@	10¾
State, part skims, prime	7	@	9
GREEN FRUITS.—			
Strawberries, choice, qt.	8	@	10
Strawberries, ordinary, qt.	3	@	6
Gooseberries, per qt.	5		
Whortleberries, N. C., qt.	10	@	12
Cherries, per lb.	8	@	10
Canteloupes, Fla., crate	1.00	@	2.00
VEGETABLES.—			
Beans, So., per 1-3-bbl. bas.	1.00	@	1.25
Beans, wax, 1-3-bbl. bas	75	@	1.25
Beets, So., per 100 bun	2.00	@	3.00
Cabbage, So., bbl. crate	1.00	@	1.25
Cucumbers, Char., bas.	2.00	@	2.50
Cucumbers, Fla., per crate	1.00	@	1.50
Cucumbers, per basket	1.25	@	1.75
Eggplants, Fla., box	1.50	@	2.50
Onions, N. O., bag	1.25		
Squash, So., per 1-3-bbl. bas.	75	@	1.00
Tomatoes, Florida, crate	1.00	@	1.75
POTATOES.—			
White, Pa., per bu	70	@	73
do New York, per bu.	65	@	68
do Western, per bu.	55	@	65
do Southern Rose, pr., bbl.	3.25	@	3.50
do do medium, per bbl.	2.25	@	2.50
do do culls, per bbl.	1.25	@	1.50
do No. 1, per bbl.	2.50	@	3.00
Sweets, Jersey, per basket	45	@	50
BEANS AND PEAS.—			
Beans, marrows, H. P., bu.	2.65		
Pea beans, H. P., 1902	2.30	@	2.35
Red kidney, 1902	2.90	@	3.00
Scotch peas, per bu	1.65		
Green peas, per bu.	1.60		
COTTON.—			
Cotton, per cwt.	11.50		
FEED.—			
Bran, bulk, winter, per ton	19.00	@	20.00
Bran, sacked, spring	19.00	@	20.00
HAY AND STRAW.—			
Timothy, N. Pa., choice, l'g	22.00	@	22.50
do Western	21.50	@	22.00
Timothy, mixed Western	15.00	@	18.00
Straw, straight rye	12.50	@	10.50
Wheat	10.50	@	12.00
Oat	8.50	@	10.00

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle steady.

Extra steers	5¼	@	5¾
Good steers	4¾	@	5
Medium steers	4½	@	4¾
Common steers	4¼	@	4½
CALVES.—			
Veal calves active.			
Extra calves	7¼	@	7¾
Fair to good	6	@	7
Poor and common	4½	@	5½
Grassers	3	@	4
HOGS.—			
Hogs steady.			
Fat hogs, Pa., Del. & Md.	6¼	@	8¼
Fat hogs, Western	8½	@	8¾
SHEEP.—			
Sheep and spring lambs active.			
Sheep, extra	4¾	@	5
Sheep, good	4¼	@	4½
Sheep, medium	3¾	@	4
Sheep, common	2	@	3¼
Lambs, spring	5	@	8¼

* * *

The New York Market Review.

While crop news continue uncertain for grains, the prices for wheat show no material advance, and bulls are in despair of forcing them much higher until something definite is known about the crop yield. The market is generally firm, however, and there is good trading throughout, and exports continue satisfactory. The full extent of the damage of the flood cannot be ascertained until the waters have subsided. The market for corn is more bullish than for wheat. This is mostly due to the fact that the acreage now is bound to be much less than last year. Seaboard clearances are light, and prices are up to 57c. for cash corn. Exporters are not willing to buy freely at the high prices in the face of the present uncertainty. Oats are firmer and fairly active in sympathy with other markets, and the general uncertainty of crop conditions. Rye continues moderately active and firm, but barley is quiet both for malting and feeding.

The condition of the butter market is steadily but slowly improving both as regards prices and the quality of the goods coming forward. The new butter has now improved to the point where most of it goes directly into the freezers. Receivers claim that it will sell better later, and that its keeping quality is assured. The Western butter, where grass conditions are better than in the East, shows finer June flavor and quality than the nearby butter. The very moderate receipts of Western butter are probably due to the rains and floods which have impeded traffic and caused farmers and dairymen trouble in getting their goods to the shipping points. General values show an upward tendency, and it is believed that a steady advance from 22c. for extra creamery will be made the coming week. Supplies of cheese reached 36,000 boxes the past week, but exporters stirred themselves and disposed of nearly one-third of the total. This left, however, quite a surplus on hand, and prices showed weakness. There is a weaker feeling in the country districts, which is reflected here. A reduction in the shipments is needed to give new tone to the market.

The poultry market is developing a strong tone and wider range of activity. In live poultry the receipts were liberal last week, but they have dropped off lately, leaving conditions satisfactory. In fact, live fowls, roosters and spring chickens are all cleaned up so that there is no surplus whatever, and even turkeys, ducks and geese have a pretty good sales movement. In dressed poultry fowls have been coming forward pretty freely, but demand has increased, and prices are correspondingly firmer. Prices are maintained for all broilers of large and desirable quality, but the small underaized ones are weak. Nearby spring ducks are more plenty, and prices are low with demand limited. Tame squabs are steady at good prices. Frozen poultry has a steady demand.

The prices for hay continue high, but receipts are running large. There is a steady improvement in grass conditions, and Western hay comes forward freely now from many points. The present prolonged rule of high prices has induced some stables and consumers to reduce the amount needed very materially. This has lessened the buying each day by a good many hundred tons. Straw has also been high for a long period, and it shows a tendency to quietness. There has been a steady improvement in dried beans for a month past, and this week prices have advanced on most grades. The strength of the market is in the small offerings and firm interior prices. Imported beans have also developed a little firmer tone and higher range of prices. The market is poorly supplied with fancy grades of Northern eggs, and it is sometimes difficult to find enough to go around at 18c. per dozen, but low and medium grades are plentiful and dull. Old potatoes are gradually increasing in value, and while new potatoes increase in quantity the prices for choice old advance. They close firm and higher than at any time during the past year.

G. E. W.

* * *

New York, June 6, 1903.

WHEAT.—			
No. 2, red	85½		
No. 1, No. Duluth	89½		
CORN.—			
No. 2, elevator	57		
No. 2, white, f. o. b.	57		
No. 2, yellow, f. o. b.	57		
OATS.—			
No. 2, white	42½		
No. 2, mixed	39¼		
No. 3, white	42		
HAY AND STRAW.—			
Timothy, large bales, cwt.	1.05	@	1.10
No. 1	95		
Clover, per cwt.	55	@	65
Straw, long rye, per cwt.	65	@	80
Straw, oat, per cwt.	45	@	50
BUTTER.—			
Creamery, extra, per lb.	22½		
Creamery, firsts	21	@	21½
Creamery, ordinary	18	@	20½
State dairy, fresh, tubs—			
Fancy, per lb.	21		
Firsts, per lb.	19½	@	20½
Ordinary, per lb.	16	@	19
West. Imitation Creamery—			
Finest, per lb.	19		
Ordinary, per lb.	15	@	18
Western Factory—			
Finest, per lb.	16		
Ordinary, per lb.	13	@	15½
Packing stock, solid packed	14	@	15½
Rolls, fresh, com. to prime	14	@	15½
NEW CHEESE.—			
State, f. c., small, choice	10⅝		
Fair to prime	8½	@	10¼
Large colored, choice	10⅝		
Large white, choice	10½		
State, light skims—			
Choice	8½		
Part skims, prime	6¼	@	6¾
Full skims	2		
EGGS.—			
QUOTATIONS AT MARK.			
State, Pa., and nearby—			
Fancy selected white	19		
Fresh gathered, firsts	17½	@	18
Western—			
Fresh gathered, extras	17½		
Fresh gathered, firsts	15½	@	16½
Kentucky, seconds	13½	@	14½
Tennessee and other Southern—Thirds	12	@	13
Western, dirties, fresh gath.	13½	@	14
LIVE POULTRY.—			
Spring chickens, nearby, lb.	25		
Western, per lb.	25		
Southern, per lb.	20		
Fowls, selected, heavy, lb.	15		
Roosters, per lb.	10		
Turkeys, per lb.	10	@	11
Ducks, average, pair	70	@	1.00
Geese, average, per pair	90	@	1.25
Live pigeons, old, pair	35		
Live pigeons, young, pair	25		
DRESSED POULTRY.—			
FRESH KILLED ICED.			
Turkeys—			
Young toms & hens, lb.	13	@	15
Old	14	@	15
Broilers—			
Phila., 3 to 4 lbs. pair, lb.	35	@	40
State & Penna., 3 to 4 lbs. to pair, per lb.	30	@	35
Balt., d. p., 2 lbs. per pair	40	@	60
Western, d. p.	28	@	30
do scalded	23	@	25
Fowls, West., scald., sm., fcy	13		
Dry picked, small, fancy	13		
Heavy	13		
Southern & So. West., d.p.	13		
Scalded	12½		
Spring ducks—			
Long Island, per lb.	17		
Eastern, per lb.	17		
Jersey, Pa. & Va., per lb.	16½	@	17
Squabs—			
Prime, large, white, doz.	2.75		
Mixed, per doz.	2.25		
Dark, per doz.	1.50		
FROZEN.			
Turkeys—			
Young hens & toms, No. 1	18½	@	19
Roasting chickens, large and soft meated	16	@	17
Average, No. 1	15	@	15½
Broilers, d. p., No. 1	19	@	21
Broilers, scalded, No. 1	16	@	18
Capons, choice, heavy	20	@	22
Medium size	18	@	19
Ducks, No. 1	16	@	17
Geese, No. 1	11	@	12
APPLES.—			
No. Spy, bbl.	1.50	@	3.00
Russet, per bbl.	1.50	@	3.00
Ben Davis, per bbl.	1.50	@	2.50
Baldwin, per bbl.	1.50	@	2.50
GREEN FRUITS.—			
Cherries, So., qt.	8	@	11
Blackberries, N. C., qt.	6	@	10
Huckleberries, N. C., qt.	12	@	16
Gooseberries, qt.	5	@	7
Oranges, Cal., blood, box	2.40	@	3.00
Oranges, Cal., blood, ½ box	1.50	@	2.00
Oranges, Cal., navels, box	2.75	@	4.25
Oranges, Cal., seedlings, box	2.00	@	2.50
Pineapples, Fla., 24s-36s	1.75	@	2.50
Strawberries, Del. & Md., qt.	2	@	9
Strawberries, up river, qt.	5	@	10
Strawberries, So. Jer., qt.	3	@	12
Muskmelons, Fla., crate	1.00	@	2.50
Watermelons, Fla., car	200.00	@	300.00
Peaches, Fla., carrier	1.00	@	3.00
Peaches, Ga., carrier	1.00	@	2.00
Peaches, N. C., carrier	1.25	@	1.50
VEGETABLES.—			
Asparagus—			
Colossal, per doz.	3.50	@	4.50
Extra prime, per doz.	2.50	@	3.00
Prime, per doz.	1.50	@	2.25
Cull, per doz.	75	@	1.25
Beans, lima, Fla., crate	1.00	@	2.00
String beans—			
Wax, per basket	50	@	1.00
Green, per basket	50	@	1.25
Beets, per 100	1.00	@	3.50
Cabbage—			
N. C., bbl. crate	75	@	1.00
Norfolk, bbl. crate	1.00	@	1.25
Carrots, old, bbl.	1.00	@	2.25
Per 100 bun.	1.00	@	2.00
Cauliflower, Nor., bas.	1.00	@	1.25
Corn, green, bas. or crate	2.50	@	3.00
Cucumbers, Fla. crate or bas	1.00	@	2.00
Char. or Sav., bas.	1.50	@	2.50
Eggplants, box	1.00	@	3.00
Kale, per bbl.	30	@	50
Lettuce, nearby, per bbl.	1.00	@	1.50
Okra, carrier	1.00	@	1.50
Parsnips, per bbl.	75		
Peas, So., ½-bbl. basket	75	@	1.25
Del. & Md., bas.	1.00	@	1.25
Jersey, bas.	1.00	@	1.25
Peppers, green, Fla., crate	1.50	@	2.00
Radishes, per 100	50	@	1.00
Rhubarb, per 100 bunches	1.00	@	1.75
Spinach, per bbl.	75	@	1.25
Squash—			
Fla., white, bbl. crate	1.00	@	2.00
Fla., yel., crookneck, bbl.	50	@	75
Marrow, bbl. crate	2.00		
Southern white, bu.	50	@	75
do marrow, bbl.	2.00		
Turnips, white, 100 bun.	1.00	@	2.50
Turnips, Rus., bbl.	1.50	@	1.75
Tomatoes, Fla., fancy, car.	75	@	1.50
Onions—			
Char., bas.	1.00	@	1.25
Texas Bermudas, crate	1.90		
Texas Bermudas, bag	3.00		
New Orleans, bag	1.15	@	1.25
POTATOES.—			
Char. & Sav. Rose, pr., bbl.	3.00	@	3.50
White Chilis, prime, bbl.	2.75	@	3.25
Red Chilis, prime, per bbl.	2.50	@	3.00
N. C., Rose, prime, per bbl.	2.75	@	3.25
White Chilis, prime, bbl.	2.50	@	3.00
Red Chilis, prime, per bbl.	2.50	@	2.75
Southern seconds, per bbl.	1.75	@	2.25
Southern culls, per bbl.	1.00	@	1.50
Old domestic—			
In bulk, per 180 lbs.	2.12	@	2.37
Per 168-lb. sack	2.10	@	2.25
Common, per bbl. or sack	1.75	@	2.00
Sweets, Jersey, per basket	1.00	@	1.50

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WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.	
XX and above	30@31
X	27@28
Medium	29@30
Quarter blood	28@29
Common	25@27
UNWASHED (light and bright.)	
Fine	19@22
Medium	21@22
Quarter blood	21@22
Coarse	19@20
UNWASHED (dark colored.)	
Fine	16@17
Fine medium	17@19
Medium and quarter	18@20
Coarse	17@18
COMBING AND DELAINE FLEECES.	
Washed fine Delaine	31@33
Washed medium	30@31
Washed low	28@29
Washed coarse	27@28
Unwashed medium	22@23
Unwashed quarter blood	22@23
Braid	20@22

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Beautiful World.

FLORENCE M. REYNOLDS.

It's a bonnie, bonnie world,
If your hearts are all in tune
To the melodies of nature
In the fragrant days of June.

Bonnie birds, their bird notes singing,
Bonnie roses, fragrance flinging,
Joyous hearts glad measures bringing,
To the pleasant days of June.

It's a bonnie, bonnie world,
If your hearts are all in tune
To the melodies of nature
In the fragrant days of June.

Looking at your work as training,
You must do with no complaining,
And with courage never waning,
By the hour or by the day.

It's a bonnie, bonnie world,
If your heart is all in tune
With the melodies of nature
In the lovely days of June.

Grasping hope ere past recalling,
Living lives that raise the fallen,
Ready for the last sweet calling,
And the rest of eventide.

Lawsons, N. Y.

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In the Kitchen.

Ethel Middleton, Indiana, writes on cake making: There is no part of the duty of the modern housewife that requires more skill than the selection and preparation of the cakes served upon her table. One of the best ways of measuring a woman's ability is her ingenuity in furnishing her family and guests with cake that will be enjoyed. I remember how proud I used to be, when quite young, of being able to make a cake, and nothing pleased me better than to have my father say that it was better than my mother could make. And I will say right here to all the mothers, teach your daughters to make cake. If they are inclined to like cooking you know not what pleasure it will give them though it may cost you a few cents' worth of sugar and a few ounces of patience.

To make a success, there are a few hints which should be regarded. First, only the best material should be used. Second, regulate the fire so that no wood will have to be put on while the cake is in the oven. Third, have the oven at the right temperature. A simple way to test it is to place a piece of yellow paper in it. For layer cake it should be made a golden brown in four minutes; for loaf cake in five minutes; for angel and sponge cake in seven minutes. Fourth, never use a tin dish or a metal spoon. Fifth, never melt the butter; place it where it will become moderately soft, but never melted. If the above hints are regarded, the following recipes may be used with success. These are my favorite cakes:

Hickorynut Cake.—Beat two eggs thoroughly, then add one and a half cups sugar and one-half cup butter. Cream well, then add one and one-half cups cream, two teaspoonfuls of baking powder, one cup of hickory nut kernels and enough flour to make a stiff batter. Bake in one loaf in a moderate oven.

Mixed Layer Cake.—White part. One cup of sugar and half a cup of butter well beaten together; half a cup of milk, whites of three eggs beaten to a stiff froth, two cups of flour well mixed with one teaspoon of baking powder. Bake in two tins. Dark part. Two cups brown sugar, one small cup of butter, one cup of milk, yolks of three eggs, three and one-half cups of flour, two teaspoonfuls of baking powder and whatever flavor is desired. Bake in three tins. Spread first the dark sheet with whatever filling desired and then the white, alternating the sheets.

Marble Cake.—Light part. One cup of white sugar, one-half cup butter creamed together. One-half cup milk, two cups of flour, with one and a half teaspoonfuls of baking powder and whites of three eggs beaten stiff. Dark part. One-half cup molasses, one-fourth cup of butter, one-fourth cup of milk, yolks of three eggs and one-half teaspoonful of baking powder, half teaspoonful of each, cinnamon, nutmeg, allspice, and two cups of flour. Butter tin and place in alternate tablespoonfuls.

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Summer Economies.

ELSIE GRAY.

A woman who makes the clothing for a family of children seldom sees a time when all the sewing and mending is done. When the thin dresses the little girls wore last summer are brought out, we are surprised to see how much the little folks have grown, for it is usually necessary to make several changes before they are ready for use again. The fulness of these frocks removes half the difficulty, for fitted bodices are hard to enlarge. When the waist is joined to the skirt they may be taken apart and a belt of the material put in to lengthen the dress.' If you wish to lengthen the skirt, let the hem out and face the lower edge, or put a row of insertion just above the hem. Full sleeves are lengthened by replacing the cuffs with wider ones, or putting a ruffle on the lower edge of the cuffs. Long before the careful housewife feels that she can discard certain garments, she finds that they must be renovated in some way to make them presentable or they cannot be worn any more. This is especially true of daintily colored ginghams, chambreys and other wash goods that fade almost white during a few months wear, even when carefully washed. These dresses can be boiled in strong suds to remove all the old color that remains, then dye them pink, pale blue, cream color or turkey red with Diamond dye for cotton. The dresses need not be taken apart, so the task will be an easy one. Shirt waists that have faded are greatly improved by the same treatment. One is often surprised at the result of a little work and planning from seemingly hopeless material. Kitchen aprons may be made of the back widths of old wrappers. Watch for the tiny breaks in the children's hose, and mend them before they have a chance to grow larger. Pieces of percale, calico, gingham, in fact, almost any kind of dress goods, can be used for quilts, and the little girls will enjoy piecing them. Teach them to sew. The woman who is her own dressmaker, and who knows how to make the best use of every dollar, is usually the one who began while quite small by making the garments for her doll and herself. No matter how wealthy she may be in after life the knowledge will always be useful. If there are little boys in the family, the mother can save a considerable sum every year by making their trousers at home. She will seldom have any trouble in finding material for them among the cast-off clothing, as almost any pair of pants will contain enough good material for a small pair. Rip up the goods and wash it clean. Our little boys often have as much pride as the girls in the appearance of their clothes, and this pride should be encouraged. So if the material is faded, dye it some dark color with Diamond dye, and it will look as fresh and pretty as new goods. Then buy a pattern, or rip an old pair that fits nicely, press the pieces and cut a pattern by it. Lay your pattern on the cloth, using the best parts where the most wear will come, and cut them out. Make the pockets and put them in, pressing the seams nicely. Then baste the seams of the legs and try them on to see if any alterations are needed. If satisfactory, sew the seams on the machine, face the top parts, work the buttonholes in two strips of new drilling, and sew them in. These strips will often do for two pairs of pants, thus greatly lessening the work of making them. Hem the bottom, but do not turn the edge under, since that makes the hem too bulky.

St. Louis, Mo.

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The Defeat of Woman Suffrage in Arizona.

ELNORA M. BABCOCK.

Those who oppose woman suffrage are rejoicing over its defeat in Arizona, where it passed both houses of the Legislature by an almost unanimous vote, but failed to become a law through the veto of Governor Brodie. But when we consider the causes that led to the veto and the fact that both houses of the Legislature and the best element among the people were in favor of the bill, it may be set down as a triumph for woman suffrage even though the women will be deprived of their vote through the disgraceful act of one man in authority. Governor Brodie gave as his reason for vetoing the bill that it was unconstitutional, but everyone knows that this is not the true reason, as the Supreme Court of Arizona had unanimously declared that such a law would be constitutional. The Tucson, Ariz., Star, in a long article points to the real power behind the throne when it says: "The saloon and gambling element were the strongest class that urged the disapproval of the bill. It is a matter of fact that in several of the towns the petitions which went to the Governor were carried around by saloonkeepers and gamblers and that the gamblers in Prescott, Phoenix and Tucson were betting that the Governor would veto the bill. Tonight the saloons of Phoenix are the centre of rejoicing on account of the stand Governor Brodie has taken on the suffrage bill, claiming that they are on top and that the Governor is with them. As a prominent citizen said tonight: 'The gamblers and saloons win, the women lose.'

"The suffrage bill was assassinated and in the words of one of the leading members of the assembly, the Governor, in order to accomplish the defeat of the bill, was forced to send the weakest, poorest and most disgraceful excuse under the guise of a veto that any executive ever sent back to an Arizona Legislature. The feeling in Phoenix in many quarters is that the Governor's action on the bill under all the circumstances is, to say the least, discreditable to him."

This is the element which controls a majority of our Legislatures, and woman suffrage has this to contend with in addition to the prejudice which is always found to exist against every new order of things. It does seem that the better class of men ought to be aroused to see to it that men were put in authority who would not debauch every sense of justice and the expressed will of the people.

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Among the Flowers.

Mrs. P. H. Rives, Pembroke, Ky., writes: Mrs. Ellen Peters, Red Oak, Ga., wants to know something about hardy vines. Their name is almost "legion," and so many are beautiful and attractive that it is hard to choose what to take and what to leave. There is the Japanese clematis Paniculata, with its white, feathery bloom, perfectly hardy and of rapid growth. Mad. Ed. Andre crimson clematis, large flowers, magnificent, as is also Jackmanii, purple; Henryi, white; Ramona, bluish purple, very large, and Duchess of Edinburg, creamy white.

There are the Chinese Wisterias, graceful and rapid growers, both purple and white. The Rambler roses are all desirable, but the Crimson is *par excellence*. One who has not seen a large Crimson Rambler in bloom has no idea of its beauty and grandeur. The white Chinese honeysuckle is hardy, evergreen and bears clusters of the sweetest flowers that grow. We moved from Bell, Ky., to near Pembroke, Ky., last January. We find ourselves in most attractive surroundings, seventeen large sugar trees on front lawn and plenty of blue grass, with an old-fashioned garden full of flowers and shrubs, lilacs, snowballs, calicanthus, paeonies, honeysuckle, narcissus and jonquils. For the benefit of Mrs. Peters I will give a few prices from a popular catalogue (Wm. Henry Maule's, Philadelphia): Clematis—Jackmanii, 25c.; Henryi, 25c.; Mad. Ed. Andre, 25c.; Paniculata, 15c., Chinese Wisteria, 20c. each, Rambler roses 15c. each or 35c. for two-year-old plants, postpaid on all the above.

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Words.

MRS. E. K. CORNELIUS.

"Thoughts unexpressed may sometimes fall
back dead,
But God himself can't kill them when they're
said."—Carleton.

The truth expressed in the above lines has been demonstrated to each of us. Have we not, through lack of prudence and foresight, let slip some words, which, ere scarcely spoken, we would have given worlds to recall. To think twice before we speak, is an adage too little heeded, but to speak what we think is our first impulse. Could the unkind words be placed in the balance with the kindly ones, which would weigh the heavier?

It is an accomplishment, and a great one, too, to be able to control one's feelings and allow nothing to pass one's lips that may prove harmful to anyone. This is an era of free thought and free speech, yet from a moral standpoint we have not the right to wound another. And would we not be freer actors as well as thinkers were we not fearful of criticism? In all the walks of life we meet those whose greatest fault consists in "Speaking their minds." Many who, indeed, pride themselves in being so outspoken. Thoughtless as to the effect of speech on another, or indifferent as to the result, they talk on, wounding at every thrust. Rebuke is necessary at times, but wisdom and tact are essential helps in discerning the occasion for its giving. The tongue has been well named the "unruly member," for of all the servants nature has granted us, this is the most ungovernable. Exaggeration in conversation is unpardonable; nor is it needful to always speak out in order to strictly adhere to the truth. How often tempted, in a burst of confidence we tell to another what should have been kept locked in our own hearts! A secret ceases to be a secret when shared by another. And have we the right to exact from another that which we ourselves fail in? True it is that "To be trusted is a greater compliment than to be loved," yet to confide in another that which we failed to conceal, is imposing a task we ourselves have shirked. It is just as easy to diffuse light as shadow, if we form the right habit, and of so much more satisfaction to ourselves, as well as adding joy to another's life.

"A little word in kindness spoken,
A motion or a tear,
Has often healed a heart that's broken,
Or made a friend sincere."

Hardy, Ark.

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At the Dish Table.

EXPERIENCE.

Some who have had no opportunity to observe the various methods of washing dishes, might suppose that no instruction or training is necessary for such a simple matter. If those who think thus would step into one of the kitchens where work is done without method—and there are many such—they would see that there is something to be learned even about dish washing. First, the dishes should be regulated on the dish table, or a board shelf, near the sink, putting all of one kind together and piling them in neat piles. All scraps of food should be removed from them when they are taken from the dining table. The cleanest dishes should be washed first, then the next cleanest, and so on until all are done. If there are many dishes to wash the water will need to be changed often, as dirty dishwater will not turn out sweet, clean dishes.

A large dishpan and two drainers are needed, also clean dish cloths and mop, a towel free from lint for the glassware, silver and fine china, a heavier one for the ordinary tableware and still another quality for the pans, kettles and other kitchenware. Prepare a good Pearline suds in the dishpan and wash the glasses first. Have a pan or pail with clear water to rinse them in then put in the drainer to dry or to wait for the towel drying. Next wash the silver, then the china, and put in the other drainer. Pour hot water over them, let stand a moment, then wipe. If the dishpan is set on the stove while these dishes are being dried and set away, the water will stay hot for the other tableware. Wash, rinse and dry the same as the first lot. The pans and cooking dishes will come next. If scorched kettles and other sticky dishes have been soaking with hot Pearline suds they will wash easily. The dish towels and cloths should be well washed in Pearline suds, rinsed and hung in the open air to dry. Change them once or twice a week and give the ones that have been in use a good boiling.

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Small Fruit.

F. E. WALTER.

I have had good success with small fruits. By giving them good care and attention we have plenty for our table all the year, both fresh and canned. I obtain my currants by cutting off the new shoots about twelve inches long from old currant bushes. In the spring I bury them in good ground, all but four inches of the top. These will sprout up in one year from the time I put them in. I transplant to where I want them to remain, plant in rows 3½ feet apart each way and cultivate well. Strawberries I plant in the spring, about the middle of April, in rows 4 feet apart. I set the plants 2 to 2½ feet apart in the row. I keep them free from weeds and trim all runners off until the first of July then let each plant set four runners or new plants, and those four new plants each one new plant, then pinch all runners off after this. Those that are set will be good and strong and ready to bear plenty of berries the next spring.

Black raspberries I set out in the spring, hoe them until the last of July then I prune the tops off two inches so it will branch out, and the next summer I have berries. I let three new shoots come up from this plant in the spring (this is what will have your berries on the next year), prune off the tops when they are about 2½ feet high and in the fall trim out all old brush and burn. Blackberries and red raspberries I give same culture as black raspberries. All must be cultivated, hoed and weeded well, and a good supply of berries will be the result. You will feel well repaid for the labor, and will have better health.

Black Ash, Pa.

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Our Book Table.

Doubtless most of you read Ralph Connor's "Black Rock" long ago, but we have just got to it. Contrary to most people, we like it better than we did "The Sky Pilot." This seems so natural, so like life among miners and lumbermen. The remark was made recently: "I don't like Connor's stories; everybody is good in them." To our mind this is a most unjust and untrue criticism. Almost everybody in Black Rock was bad. A half-dozen, or less, Christians against hundreds of wicked, lawless men. And while all were helped, perhaps, only a comparative few were truly converted. It is a grand word picture, however, of human nature, especially human nature among the class referred to. It is comforting, too, in that it reveals the spark of divinity in each man's soul. How we long to share Craig's burdens; how we love Mrs. Maver; how our hearts go out to "Old Nelson" and poor Billy. We can but repeat, sometimes, the latter's words: "Ol' did the best I could." Poor fellow! In dying he found the peace and safety life had denied him.

We were especially touched when he expressed his fear that God would not forgive him and take him back, at Mrs. Maver's reply: "I would Billy, and He loves you more." We pitied Slavin, bad as he had been, when his baby died, and we could hardly repress a tear when Mrs. Maver went away.

"Love is not all," she said, and bravely faced her duty. And Graeme—read his rebuke to his old "Varsity" chums when one of them took the name of Jesus Christ in vain. Read it all, friends, it will do you and your children and your neighbor and his children good. Send to The Farmer Co., Market & 18th Sts., Philadelphia, for this or any other book you want.

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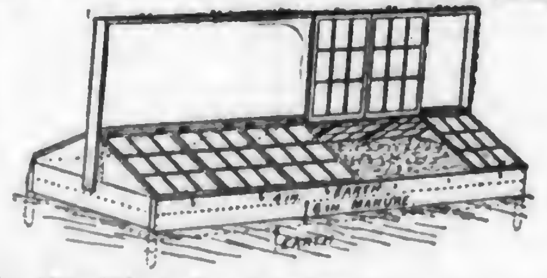
Correspondence.

Nellie Grace Cherry, Elkton, Ky., writes: My mother has good success with her chickens. She sets her hens in January or February. She keeps her coops dry and clean. If it is very cold she puts a jug of hot water in their coops. The chicks leave their mother and cuddle close to the jug. Twice a day and once before going to bed is enough to feed them, even in zero weather. She feeds a great variety of food, such as wheat, any cold vegetables she has, a little grease (in cold weather), corn bread, oats (cooked or otherwise), plenty fresh water, gravel, a little red pepper mixed with food, boiled eggs and water. She uses a good poultry food, too. Keeps free from lice by dusting with an insect powder and giving dirt and ashes to wallow in. A fine feed for turkeys is clabber mixed with green onion stems. There is no use in wild turkeys; with a little care they become tame. Never allow a diseased fowl to remain with the others, but place it in a coop by itself or destroy it. We will try to raise chicks during the winter next year. We mean to have a large house with windows facing the south, a smooth floor and a coal stove in the centre. We will use this in extreme weather. It will be easily cleaned and the stove will consume but little fuel. I guess we will use the incubator and hen both. We have a hen that takes delight in raising motherless chicks. I have seen her with a number of broods of chicks following her. She has two broods at present. Crushed egg shells are good for all fowls.

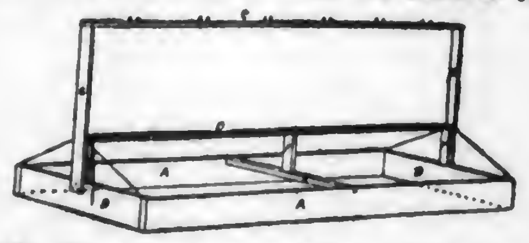
[Since our young friend has opened up the subject of chickens, we want to tell what we are trying in the line of chick food this season. A pen friend learned of it through the writings of one of Wisconsin's largest broiler producers, tried it and reports 160 of the healthiest chicks she ever had, now nearly six weeks old. It is some trouble and expense, but nothing as bad as baking Johnny cake. Equal parts of oat meal, dried bread crumbs and 10 per cent. boiled egg. The bread must be dry enough to crush fine in a mortar or under a rolling pin. (If you have a bone cutter, run it through that.) It can be dried in the oven if not sufficiently hard. His method for boiling the eggs—chiefly those tested out of the incubator—is to put them in cold water, bring to a boil, let boil ten minutes; set off and let cool in the same water. This process makes them tender. When one has mixed the oat meal and crumbs together the egg should be added, after making it fine with a table fork. As soon as the chicks are old enough to eat and not trample and destroy it, wet up with milk or water until a crumbly condition is obtained. In ten days gradually change them off from this diet to one composed of equal parts corn meal and wheat bran, scalded until it sticks nicely together. Remember, one cannot scald chicken feed with just warm water. From this go gradually to cracked wheat and corn. Don't feed anything until the first hatched birds are nearly 48 hours old. Just hover them; this is what they need and must have while they are digesting the yolk. If they show bowel trouble change the water off for a cup of strong store tea.—ED.]

Mrs. Kate Barnard, Ringwood, Ill., writes: We have about one acre in garden. In 1901 our seeds cost us $15, but we sold $4 worth of plants from hotbed; sold about $30 worth of truck; took nearly $60 in premiums at the county fair on exhibits of vegetables and corn; had all we wished for our own use, and gave a good deal away. In 1902 we sold $18 worth of plants from hotbed; sold nearly $40 worth of truck, and have parsnips and salsify to sell this spring. Our seeds cost about the same. We have not kept strict account of what was sold, but have this much on our book. We have sold onions, radishes, peppers, cabbages, cauliflower, tomatoes, beets, carrots, melons, sweet corn and popcorn. We get ten cents per dozen for our plants. The men plow the garden and prepare it to plant; we do the rest. We do not have a horse in it except for one cultivating. We use a wheel-hoe and cultivator, iron rake and hoe. We do all the labor of preparing exhibits, also gather and sell all truck. We have three in family to do housework for, and have our own flowers to attend to, also. The materials for hotbed we had on hand, all but the hinges and screweyes and hooks, which cost one dollar. We enclose plan of hotbed and think it superior to any we ever saw or read of. When we first began gardening we had one of the sliding frames and the glass was being broken continually. By this method we have not had a single glass injured. The frame is so solid it can be moved any place desired, and by simply raising sash until the hook drops inside of frame, we have good ventilation over the plants at any time. By hooking the sash up to standard we can leave part or all the plants open to the dew or rain at will. By this method by the time the plants are four inches high, the stalk is as thick as a lead pencil and perfectly hardened, ready to transplant the first warm rain, and grow right along. We transplant them direct from hotbed to garden, and they are equally as good as those bought from hothouse that have been in a cold frame and cost twice or three times as much. We dug about four inches of earth out where we wished the hotbed, filled in six inches of horse manure, then four inches good garden soil, banked the sides up with manure. Have a carpet we fold and lay over sash when it freezes hard. We sow the seeds in rows three and four inches apart and mark the varieties for the early plants. When they have been sown about three weeeks we sow the later varieties between, so they are well started when the first ones are removed. We had Maule's All Head Early cabbage by July 4th; cauliflowers, July 14th; pansies in blossom July 14th, from seed sown in hotbed the middle of March. We have won the Burpee Prize at the county fair two years in succession, and intend to try for it this year. We have raised the finest vegetables and flowers in the county, but never used an ounce of purchased fertilizer yet. It is the "special directions" that discourage so many. Just prepare the ground well, then plant seeds; they will grow.

The materials used for hotbed are 12 sash, lights 9x12; two 2x8, 18 feet long, for sides,



A; two 2x8, 4 feet 9 inches long, for ends, B; two 1x4 for standard for screweyes, C; two 2x4, one 14 feet long for windows to hinge on, D, the two under corners beveled off, E; one for cross brace 4 feet 9 inches, and three brace strips, one 12 inches and 2 15 inches, F; two dozen hinges, 12 screweyes and hooks. The end braces are on inside, mortised 3 inches on the plank at bottom; the strips, G, for standard on outside are one inch thick, four inches wide, the same as top



strip for screw eyes. When windows are raised they are just level with top strip and hook from one side toward north; the opposite side hooks toward south, and very snug so wind won't loosen them.

Mrs. Helen Reese, Idaho Falls, Idaho, writes: Dear Mrs. Melville: As long as the P. F. lives will it accept of new members to the H. C.? If so, I beg a corner. There has been two long years I have not seen its pages, but now it has come to gladden and instruct the household. My, it seemed like an old friend! People here say it is too much of an Eastern paper, but I know I like to read it, and I can find more than its subscription price in its pages. Every page is instructive in its way. I want very much to know if any H. C. reader can give me the directions where I can get the preparation made to put in coffee to cure intoxication. I know it cures, for I have heard of its work among acquaintances, but where to write for it I do not know, but anyone giving me the directions would do me a great favor. Answer through the H. C. It may be favoring others as well as myself.

[We are always ready to welcome back a P. F. reader. Come often.—ED.]

Mrs. Hattie Peacock, Gardiner, Me., writes: The following is the idea of one man in regard to his duty. I repeat it as nearly as I can remember, and think it would work on both sides of the family, and, as it is a happy conception I pass it along: "My chief aim in life is to make my wife and children happy. I never want to be rich and famous, although I look forward to better conditions than these under which I live at present. I want to see my children grow up and do as well as I have done. I want them to have smiling faces. I want them and my wife to act glad every time I come home. That is enough for me to live for, and I find life 'worth living.'" How much better that is, just living one day at a time, than to be always "money grubbing." Not forgetting that it is the many little things which make the one grand whole, not worrying about the future, though looking forward to it, but remembering the ever-present "now" that will so soon be the past which we can never recall and live over again. "The mill can never grind again with the water that has passed." Living just today, a whole full life now, with all the joy and happiness which we can crowd into it. To be sure, we want a great many things. I want a new couch, some pictures and a number of other things, but I have a new dress and a very pretty picture and lots of other things to think of, and I can wait for the time to come when I can have some of the things I want. The longer I have to wait the more time I will have in which to anticipate the pleasure of owning them. "Anticipation is better than realization." We have sorrows which we cannot shake off easily, but that future, which we would mar with "money grubbing" and meanness, will come and cover all sorrow, until sweet memories rise and grow from the pain we buried. My husband is away most of the day and has little time for the baby and myself; few of my neighbors understand me, and I stay at home mostly. I care little for calling, so I have fallen into the habit of keeping my best thoughts for myself and Ruth, and giving my worst part to others. This may be selfish, but I think it better than crowding the worst down and being lovely to neighbors and sulky when at home. If we air our faults it cleans them out and sunshine burns them up, until sometimes our worst is better than other people's best.

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Youth's Parliament.

Matilda Snyder, Caro, Mich., writes: Dear Mrs. Melville: This is my first letter to the Y. P. I live on a farm in Michigan. Father takes the P. F. I like to read it very much. I am 14 years old and have three sisters and three brothers, all younger than myself—Hannah, Susanna, Lydia, Allan, Abram and LeRoy. I go to Sunday School. I do not go to day school any more. One sister and one brother go to school. We came from Virginia about three years ago.

If you want pictures, perfume, paper lace and cardboard, you can get them with toilet soap; but they only add to the selling price and do not improve the soap. Sometimes an elaborate wrapper is used to sell a poor soap. Ivory Soap is put up in a plain, unpretentious wrapper, but is the purest soap manufactured.

IT FLOATS.

Our Experience Pool.

"Experience is the best teacher." This Experience Pool will be a weekly Farmer's Institute for the exchange of practical ideas by practical farmers. We want them to give their experience, as well as suggest topics for future discussion. We publish this department so that all may have the benefit of the tangible, practical experience of others on every subject pertaining to the farm. Let all contribute. A cash prize of 50 cents will be paid for the best contribution, 25 cents for each other contribution published. The only condition is that you are a yearly subscriber to the paper. Write on one side of paper only. On upper left hand corner mark plainly the number of the topic you write about. Articles on all topics must be in our hands at least three weeks before publication. Do not forget to suggest ahead topics for discussion. Address all communications to THE EDITOR, Box 462, Raleigh N. C.

Topic No. 578, June 27. — *Experience in Cheese Making on the Farm. How do You Make and Cure and Keep It, and What Kind of Rennet do You Use?*

Topic No. 579, July 4.—*On What Crop Does the Farmyard Manure Pay You Best, and How do You Manage It?*

Topic No. 580, July 11.—*If a Man Has a Farm paid for and Land is Cheap Around Him, Should he Buy More Land or Invest His Savings in the Further Improvement of What he Has?*

Topic No. 581, July 18.—*Is it Best in the Central West to let Clover run two Years or Only one? Will it Improve the Soil More in two Years Than in one?*

Topic No. 582, July 25.—*How do You Make Cider and Cider Vinegar, and How do You Keep Cider Sweet?*

Topic No. 583, Aug. 1.—*Can Farming be Successfully Done in the South Without the Use of Commercial Fertilizers?*

Topic No. 584, Aug. 8.—*How Have You Succeeded Best in Exterminating Prairie Dogs?*

Topic No. 576.—Where a Farm Can Only Afford to Have One Wagon Should it be a Low-Down One or Not?

Walter E. Hoffman, R 1, Sigourney, Ia.—The question does not designate the width of tires of the low wagon, but I take it that the Editor had the broad tires in mind. If so, let the wagon be a low one, at least in most cases. The readers are doubtless familiar with the arguments put forth by the manufacturers of broad-tired low wagons. These arguments I consider, in the main, valid. The low wagon can be loaded with much greater ease than a high one, and a saving of labor is a great consideration. Another weighty consideration to the careful farmer is that the broad tires do not cut up his land unless the ground is extremely soft and he has an extra heavy load. The draft of the low wagon is not heavy. Except on very hard ground it pulls more easily than a high one. On the road, however, it is at a disadvantage in some seasons. If the road is dry and somewhat rutted by the narrow tired wheel it will pull heavier than a high one and jolt more. If, therefore, you do a great deal of teaming on the road and others do not use the broad tired wagons you would probably do better to get a high wagon. The only other place where the high wagon is better is in pitching hay by hand onto a high stack, or shoveling grain into a high door. If you get a low wagon, first be sure you get a good one and made as you want it. I have had one for over a year and would not be without it for twice what I paid for it. It was made by the Empire Co., of Quincy, Ill., and has 4-inch tires and detachable standards. The latter I ordered specially, and consider about the luckiest hit I ever made. Next, rig your wagon up with dump boards and you will have a "handy wagon," in fact. My dump boards are 12 feet long; for the bottom 2x6 and for the sides 1 inch boards. As these side boards can be laid flat it is very easy to load something large or heavy. If you can afford but one wagon get a good low one with broad tires, rig it up properly and you will save your land from being cut up, and save yourself much unnecessary lifting.

William C. Aiken, Angwin, Cal. — Conditions in a hilly country are somewhat different than in a level prairie country, and as our section is broken up into hills and valleys, we find the ordinary height of gear to meet our requirements better than the low-down wagon. For carrying any sort of load, a good, strong brake is absolutely necessary with us, and as the manufacturers—unless I am very much mistaken—seldom, if ever, put brakes on the low-down gear, it falls to meet our demands. I say, unless I am mistaken, for the reason that I have seen but one low-down gear with a brake, and that was put on by the local blacksmith. In favor of a low-down truck, the chief advantage is the greater ease in loading and unloading, and its convenience in the field and at the barn with the farm crops. In hauling heavy loads the larger wheels give the lightest draft on the team; and on the road is most comfortable for the driver, as he is above the mud and particularly the deep white dust during our long, dry summers.

Glade Yeager, Sprankle Mills, Pa.—By personal experience and observation of the results and needs of an all-around farm wagon in this vicinity I should say that the wagon best suited here is of the standard height; front wheel 3 feet 4 inches, hind wheel 4 feet 2 inches, with a 3-inch tire and a 3½-inch spindle or skein, which I believe makes an ideal farm wagon for here. When it comes to rough and muddy roads the low, broad-tired wagon is not in it at all with the higher narrow-tired wheel, as they will roll over an obstacle easier and through the mud easier. When it comes to driving over our hilly fields with the broad-tired wagon they are exceptionally bad, as they will cut a much larger [illegible] than a narrow-tired wheel will do. Although the narrow tire is deeper, it fills up more quickly. Doubtless on the level farms of our Western brother farmers the low, broad-tired wagon would be the one to buy, but it is not in this vicinity.

A. G. Fansler, Hendricks, W. Va.—In this mountainous and rough country, in my opinion, the standard height wagons are more satisfactory for general purposes than low down kinds, for a number of reasons. High wheel wagons will ascend hills and pass over stones and other obstructions much easier and with less draft than lower makes, hence their adaptability to rough, hilly countries. Where the farmer is able to own but one wagon, he should select the one that is best adapted to general needs and the locality wherein he resides. Where one has but one wagon he is, of course, compelled to do his marketing, as well as hauling around the farm, and in localities where bridge facilities are none the best—as is generally the case in mountain sections of our country—he should have a wagon sufficiently high to enable him to ford streams safely. However, he is at a disadvantage in loading, especially heavy articles, which is quite an item where one has but little help. However, I am of the opinion that farmers should have two sets of wheels for the one wagon, making practically two wagons with very little cost. One can get low-down metal wheels of parties advertising in the P. F., at small cost, and will therefore be fully equipped for most any emergency with the one wagon with but small extra cost. I would therefore suggest the above as the most satisfactory solution of the above question.

Albert Murphy, Gordonsville, Va.—For 7 years I have kept but one wagon for farm and road purposes. The front wheels are 38 inches high and the hind wheels 42 inches, with 3½-inch tires. I find it much more convenient for loading hay, fodder, wood, etc., and it runs but very little heavier on the road than the high wheel with narrow tire. And on account of the wide tire it runs easier on the farm. If I had a high wheeled wagon I would get, for farm purposes, a set of wheels about 8 inches lower than the ones I have and tires at least 4 inches wide.

R. T. DeBerry, R 5, Humboldt, Tenn.—We are using two low wagons on the farm at present, and after using one of them for four years and the other for one year, I prefer them to the old high-wheeled wagon, and would buy the low wagon every time if I could only have one. I prefer the wheels to be about 38 inches in front and 42 inches in back. I see no appreciable difference in the draft against the low wheel, and if there is, it is more than counterbalanced by their convenience in loading and unloading. We are growing truck for the Northern markets, and have a great deal of hauling to do in the early summer, so that the one item of convenience in loading and unloading amounts to considerable during the season. We use springs under the bed, which lifts it from four to six inches, which on the high wheeled wagon would throw the bed up so high that we would almost need a step ladder to get the load in or out. Another point in favor of the low wagon is that the wheels are much heavier in proportion to their height than the high wheels, consequently they are stouter and not so apt to dish over too much and finally break down. We haul good sized saw logs on our two-horse wagon by using log bolsters fitted between the standards. We could not do this with the high wheels on account of trouble in getting the logs over the wheels. Lastly, it seems to me that the low wheels are the longer lived of the two, though I have not used the low wagon long enough to be sure of this. Taking everything into consideration I would buy the low wagon.

O. P. Cole, Nezperce, Idaho.—I presume a low down wagon would be a wide-tired one as well, and in this country it would not do. It is almost impossible to keep a wide-tired wagon on a grade when the roads are wet; and a low down wagon pulls heavy going over a stone 6 inches or so in diameter, and we have several such on our mountain roads. And even when they are half trucks, wheels 38 and 46 inches in diameter and 3 inches wide, they pull heavier, generally speaking, than a standard wagon with 2-inch tires, for this reason: There would be several ruts 2 inches wide, and of considerable depth, with no chance to turn out, and a wheel with a 3-inch tire would crowd into those ruts with a corresponding increase of draft. And it is my opinion where a farmer can only afford to have one wagon, it should be of standard size, and that in this country would be 44 and 54-inch wheels, 2-inch tire, and 5 feet 2 inch track.

Frank M. Terry, Silver Hill, Md.—I have had in my use for 30 years of my farming, three wagons—one high, narrow tire wagon with deep box; used only when work is to be done which needs the deep box. I have a low down wagon with 3-inch tire, which is seldom used except with the hay rack on. I also have the low down, 6-inch tire handy wagon, with a flat rack 6½ feet wide and 14 feet long, which I use exclusively on the farm. Of all the wagons ever made that is the best. I even go anywhere you can with the narrow tire, and where you can't get with the narrow tire. The narrow tire injures the working of the soil when wet, all through the year; the wide tire acts as a roller. One man can accomplish nearly as much work with the low down wide tire as two men can in a day with the high, narrow tire; for ease of handling, of loading, of general farm work, no wagon is its equal. If the farmer can afford but one wagon he will find the low down wagon with 3-inch tire to be the best general purpose wagon for the road and farm. That is my experience.

C. W. Ream, Loyd, N. C.—I keep three wagons, one a low down, which I much prefer to use in fields, and had we a hard road to our market town, would keep none but the low down. Traveling through deep mud with 24-inch wheels is just about equal to drawing a slide. A low down with 4-inch tire is my ideal of a wagon on the farm, but where one must go to market in mud, following narrow tires, he had better hold on to high wheels with tire of customary width.

W. D. Latshaw, Carlisle, Ind.—Where a farmer can only afford to have one wagon, I think it depends considerably on the manner in which the farm is run whether or not the wagon used should be a low down one or not. If the wagon is to be much upon the public highway, and loads are to be drawn long distances, I would prefer a wagon with wheels of medium height with tires at least 3 inches broad. Such a wagon is, in my opinion, of lighter draft than a low down one, but it requires more labor to load. Then in cases of long hauls we can sacrifice some labor in loading for the advantage to be gained by the lighter draft of the wagon with medium sized wheels. But if the wagon is to be used almost exclusively upon the farm, where loads are to be moved only short distances, I would give the low down wheels the preference. In this case the extra labor in loading upon a wagon with high wheels will more than overbalance the gain in the lighter draft thus rendering the low down wheels the most economical.

R. Denn, EauClaire, Mich.—For the average farmer who keeps only one all-purpose wagon, if his market town is not more than five miles away, I consider the low wagon the only practical one. I believe in having front wheels low enough and bolster high enough to admit of wheels turning under box, then box can be made wider. The common 3-foot box is too narrow to load light, bulky material on. Wheels should not be lower than 24 inches nor higher than 32 inches, with tires 5 or 6 inches wide.

Nathan Clair, Newhall, Mo.—Some years ago the felloes of my farm wagon needed replacing, and I took it to our wagon maker and had him cut off about three inches of the ends of the spokes, put on new felloes, and set the tires. This made the wheels nearly as good as new and some six inches lower than the standard height. After using this wagon for a number of years since having it cut down, I like it much better than I did before, and if I could afford only one wagon on the farm, and were purchasing a new one, I would much prefer a wagon of about this height rather than one of standard make. The low metal wheeled wagons are very useful on the farm, but where only one wagon is owned they would not prove to be satisfactory, as a farmer has much use for a wagon off the farm. The draft of these low down wagons is considerably more than the standard make, and where they have broad tires, as well as low wheels, they run very hard in deep, soft mud, and slide around a great deal when the roads are slippery and the mud not deep.

Thos. H. Strain, Wellsburg, W. Va.—While our present farm wagon is one with high wheels and narrow tires, it is my opinion that a low down wagon would be best for a farmer having only one. Have never used a low down wagon, hence cannot say as to draft on hills and through mud, but one great advantage for it, to my mind, is that loads do not have to be lifted so high. It is common knowledge that it takes a great deal of force to raise a ton of weight to a height of one foot, so what is the use of doing this over and over again in loading a wagon just because it is a familiar practice?

J. Newton Glover, Vicksburg, Pa.—While a low down wagon is very convenient for loading hay, grain, manure and stones, yet they are not a suitable wagon for the roads all the year, on account of being hard to pull through mud, or sliding on wet or icy roads, and they are not suitable to go to the woods to haul home wood or rails. Then, being low, they run harder than a higher wagon, and at no time does a wide-tired wagon run as smoothly or as easily as a narrow-tired one, according to my experience with the one I have. So I would say that where only one wagon is kept on a farm, have one of regular size with 2-inch tires.

W. W. Martin, Grand Tower, Ill.—I say most assuredly the low down wagon is the thing, where anyone needs only one. Will try and describe mine. I bought an old running gear for $2.50. Bought steel wheels for it. Front wheels 32 inches and hind wheels 34 inches in diameter, made log wagon fashion, with solid bolsters that come 2 inches above the wheels. I can use a wagon box, or hay frame, platform or rack of any kind on this wagon, and change to any of them in a few minutes, and if I want to haul a log can get ready on short notice. The wagon is light yet strong enough to hold all any two horses can pull on ordinary roads. It has steel skeins 2¾x8½ inches. It is now practically a new wagon, for I have put in new skeins and new axles. Have done all of the woodwork myself. The wagon has cost me about $25. It weighs 1,020 lbs. with box on. I would not do without mine for twice what it cost.

Wm. H. Wheeler, Greenleaf, Ore.—Where a farm is far from town and the roads are poor, a low down wagon alone will not do. Many barns are so constructed that when the pitching is done by hand a high-wheeled wagon is a labor saver. Low wheels are better for many kinds of work on the farm and save much exercise of human muscle, but for long hauls over rough roads and hills they are harder on the team. Near town, where roads are good and hauls short, a low down wagon is the better, if only one is kept.

SUMMARY.

The Editor agrees with those of our contributors who consider the low down and broad-tired wagon best on the farm in getting in the crops, but that the ordinary higher wheeled wagon is far better for the ordinary roads we are compelled to use in this country. If every one used broad tires on the roads it might be different, but the man with broad tires on a muddy road where other people use only the narrow tires, is at a great disadvantage. On a hard stone road to, while the broad tire is best for the road I do not think it best for the team. I think that if I could have but one wagon I would use the ordinary farm wagon with high wheels and medium tires.

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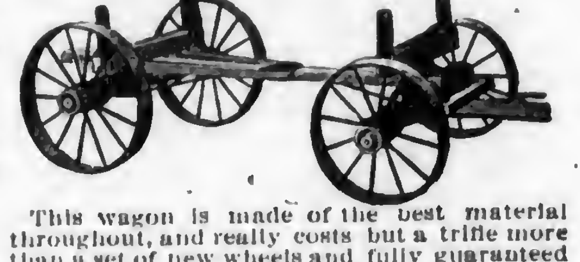

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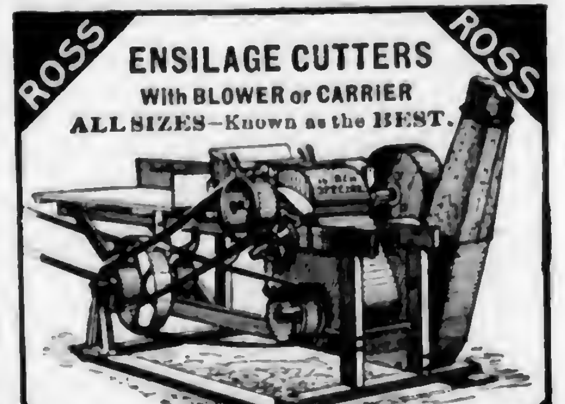

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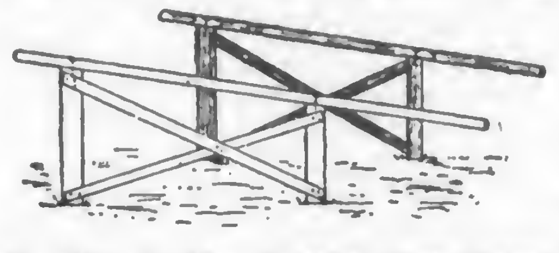
SHORT CUTS.

BY PRACTICAL FARMER SUBS.

All other trades have resorted to "Short Cuts." To be successful farmers must resort to them, too. In this column we will publish all actual labor saving short cuts made by the farmer on the farm and the housewife in the home. Write and tell us of any labor saving tool you have made, of any method of management or manner of using implements to save time, labor and money, or increase their efficiency. Even the smallest things may be useful and valuable. Hints and helps in the household are always welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Write on postal cards and make articles short. All errors will be corrected by the editor. Address all communications under this head to T. Greiner, La Salle, N. Y.

Handy Hay Rack Stand.—Rack can be taken off and put on without lifting. Made as follows: Set four strong, heavy posts in the ground, having the two front ones 7 feet high and the two back ones five feet high. These posts to be far enough apart to admit of free passage of wagon wheels. The front posts are to be 10 feet from back ones. Brace two posts on either side. Put a 20-foot pole, with bark off, spiked on the top securely. When completed each part of stand should look like illustration. When you want to take off rack, drive between and the arms of rack will slide up the inclined poles and be off wagon in short order. When you want to put rack on, back wagon under highest part and you can slide rack on again. This is a labor saver and it costs so little.



E. V. HARTMAN.
Roscoe, Ill.

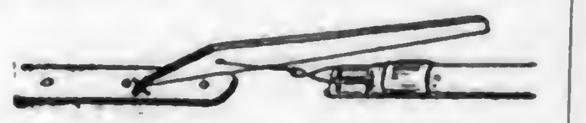
Convenient Home-Made Carpet Stretcher.—Take two 1x2-inch pieces, 8 or 10 feet long, bore eight or ten holes 6 inches apart in one end of each piece. Take a piece of quarter round, 6 inches long. Drive 4-penny nails 1 inch apart through in such a manner that they will come out on the round side and will slant when this piece is nailed on the end of another 1x1-inch piece 1 foot long. Now fasten this 1 foot onto the end of one of the 8-foot pieces, so the nails will not be quite on a line with the 8-foot piece. Cross the pieces x fashion, run a bolt through a hole in each. One person put the nails in the edge of carpet and keep them out of floor, while another adjusts the x and bears down on top of x. Know it is very convenient and easy to use when made right.

MRS. J. P. JANEWAY.
Sweetwater, Tenn.

Mending Children's Stockings. — Better than a patch and a neat, easy and simple way to mend children's stockings on the knee without that horrid patch is to take yarn as near like the stocking as you can and with a knitting needle take up stitches below the hole in the stocking and wide enough to cover on each side with two needles knit same as for heel until long enough to reach above knee; now bind up and stitch down neatly at sides and top and your stockings will hardly show they have been mended. I have been a reader of the P. F. for many years and enjoy the Short Cuts Department.

MRS. NERI SHRIDER.
Elsie, Mich.

Canvas Tightening Device.—The end of the lever is put through one of the holes in the strap, and it is then a very easy matter to draw the canvas tight and buckle it. Will be found convenient for many other purposes. To make the tightener take a broad strip one inch thick, two inches wide and two feet long; three inches from the front end bore a small hole through, level the top from that hole toward each end, so that it will be about an inch at the ends; take a piece of light iron, drive it in the end of the lever, bend the nose downward, take another piece of light iron, put it through the hole of the lever; make a hoop at each end for the buckle.



F. J. MCALLISTER.
Alliance, Pa.

Ax Rule.—Take a rule or square and measure 2 feet on the ax handle. Then mark the lengths of 6 inches, 1 foot, 1½ feet and 2 feet. Now you have a handy rule when you are out in the woods sawing and chopping wood, and you can measure the length of a log to see how many stove lengths there are in it.

ELLSWORTH H. MISH.
Inwood, W. Va.

Kitchen Short Cut.—It is a great saving both in time and patience, to fasten a screw eye on the end of every little kitchen utensil having a wooden handle and that will hang up. Used on long-handled spoons, potato masher, rolling pin, etc., in place of a string, it proves a great convenience.

R 2, Ithaca, N. Y. MARIAN O. BROWN.

Moving Binder Through a Narrow Gate.—In harvest time it requires a great deal of time and labor to either fold a binder or place it on trucks in order to get through a gate into an adjoining field. Last summer I saw a man take a binder through a twelve-foot gate in a very few minutes. The device he used was simply two poles mortised together by short cross-ties so close as to allow the drive wheel and grain wheel to rest firmly upon the poles. The binder was pulled upon the poles, team unhitched and hitched to one end of contrivance by plow doubletrees and short chain to cross-tie, and tongue of binder removed. If there are two men the tongue need not be removed, as one man can manage it while the other drives the team. The poles should be of the required length and not over three or four inches in diameter.

J. L. GANDER.
R 5, Rich Hill, Mo.

To Get Rid of Rats.—When rats get into the cellar and have dug holes through between the stones in the wall, the best and only way we could get rid of them was to take old bottles or any old pieces of glass and break it up in pieces quite small and fill the holes in the wall with this glass.

Linesville, Pa. HAROLD PATTERSON.

To Prevent Blood Poison. — For a wound made with a rusty nail or glass, bathe the part in a solution made by dissolving a few grains of permanganate of potash in a pint of water. This remedy is frequently used in Florida for the bites of poisonous snakes. To prevent lockjaw from a rusty nail in the foot, insert a few drops of turpentine in the wound with a small bulb syringe. To cure blood poison, kill a young chicken, cut open and while warm apply to the wound. This will give immediate relief. Melted tallow applied freely to a wound will also prevent poison taking effect in a wound. For carbuncles a poultice of raw beef is a fine dressing, or a poultice of common clay will effect a cure. These are all tried remedies.

Knoxville, Tenn. M. H. BURRIS.

Harness Oil.—Take about one-half pint of neat's foot oil, one-half pint of best castor oil, mix together. Then wash harness clean, let it get partly dry if the weather is cold. Choose a warm room to work in. Apply with a small cloth. Do not use too much at one oiling. This amount will answer for two oilings. Hang up to dry. Rub thoroughly with a dry cloth. Be sure and clean all buckles that have gotten covered with oil. This rubbing is very essential; it makes the leather soft and pliable. When harness gets muddy clean off with warm water and cloth.

Bedford, O. C. W. KELLOGG.

Cow Trough. — Probably there are many P. F. readers that do not know of a better way to make a cow trough than a long, narrow one. I have one that I made recently and think it a great improvement over the old way. The way I made it is as follows: Take ordinary plank 1x12 inches and make it about 12 inches wide at bottom, and let the front side of trough be about 8 inches high; then let the back side slant gradually to bottom of trough. Of course you will put the end planks on. When finished it will be 30 inches wide at top, so you see a great deal of food will be saved by falling back in trough.

ERNEST L. EDDINGS.
R 6, Springfield, Tenn.

To Destroy Ants.—Make holes with a crowbar or convenient stick, from six inches to one foot deep and about 15 inches apart, over the ground infested by the ants, and into each pour two or three spoonfuls of bisulphide of carbon, tramping the dirt into the hole as soon as the liquid is poured into it. The bisulphide of carbon at once vaporizes, and, permeating the ground, destroys the ants, but does not injure the grass or any living plant. One should remember while using this substance that it is highly inflammable, and should not bring near it a flame, or lighted pipe or cigar.

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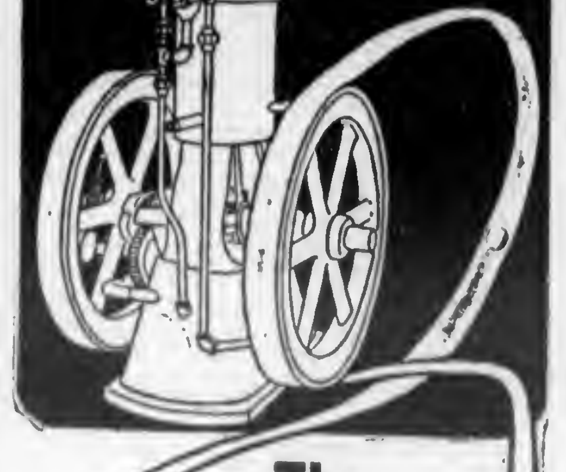

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Mistakes, Failures and Successes.

In this department we publish the Mistakes, Failures and Successes of our subscribers. They are equaly instructive and necessary, pointing the way to success. Subscribers are cordially invited to send accounts of efforts they have made which resulted in failure, as well as those which proved successful. Give in a few words your experience of anything connected with farm or household work. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Only helpful communications of value to P. F. readers will be accepted. The head of the column will be considered the position of honor each week. Send all communications to Geo. T Pettit, Oneida, Kan.

Orchard Talk. — When I bought my place, my first idea of a permanent improvement that would be profitable and useful in after years was to renovate the old orchard, which was very badly grown up, having been neglected. Many of the trees had died out and the orchard site was not near full. My knowledge of fruit growing at that time was simply what I had seen practiced — just set your tree out somewhere and it will do the rest. I realized my need and felt that there must be a better way. So I sent for some fruit catalogues and soon discovered that I had a great deal to learn and to do. But there was no time to lose, the season was passing and I wanted my trees to be growing while I was learning. So using my best judgment I sent an order to one of the largest nurseries in the country, feeling that this would compensate for my deficient knowledge. The order was filled promptly as I had sent it and there were many more fine trees added. I was well pleased thus far and one fine April morning began hustling around to get my trees ready to grow. I met grandmother with a look of surprise on her face as if something had gone wrong. She said, "you are not going to set your trees today? Why the moon and the signs are not right." According to her theory I was not to have any fruit for 20 years. The trees went in that day, and in a little over a year I had one peach. So that exploded the moon theory. My next move was to subscribe for a fruit paper to learn how to care for my new stock. I subscribed for two, one of which was the P. F. By studying my papers and trees, my mistakes began to show up one by one. First in heading the peach trees back to a "stob." I thought it was barbarous, so left the best one to experiment with, did not cut any off of it. It died, the rest lived. Second, I had too many varieties of apples ripening at the same time. Third, I got 2-year-old trees instead of yearlings. The 1-year trees would have better adapted themselves to the soil and climate and a better head could have been formed. My soil was poorer than the one they had been propagated in, which latter had forced them along rapidly. Fourth, I bought a sprayer for a small orchard which was all right for my young trees, but I did not have time to fool with it on large trees; too much like eating soup with a splinter. Would like to see the subject of sprayers for large trees discussed. How do I know? By reading and study and becoming interested in my work, so as to make it return more than a living.
Centennial, W. Va. H. N. Dransfield.

Hanging Wall Paper.—Trim from the rolls the widest margins. All the rolls needed should be trimmed before beginning the job. Make the paste the day before using. Take three quarts of water, half cup sugar, with a little glue dissolved in the water. Wet two pints of flour to a paste and stir into the above mixture as it boils. Mix thoroughly and remove from the fire at once, as cooking spoils its sticking quality. With the paste brush apply the paste evenly to the upper piece. Catch the bottom part away up, making the piece shorter to handle. Begin at a door and work from left to right. Hold the top of the piece in your fingers and by the aid of a step ladder stick it to the top of the wall, or as far as will be covered by the border. Now take a brush broom and sweep the paper down with long, light strokes. If wrinkles appear pull up from the bottom and sweep them out. Make sure that the first width is put on straight and the others will follow without any trouble. Now take the next piece and proceed as before, matching the top figure with great care. With a sharp knife trim off the surplus ends at the baseboard. Put on the border, cutting it into 3-foot lengths. If the ceiling is to be papered, it should be put on first thing.
Smitum, Ga. Watson L. Roper.

Sowing Ashes on Wheat.—Not having enough fertilizer one year ago at seeding time, I sowed a strip of about an acre with wood ashes, drilling about 100 pounds to the acre with the wheat. Where the ashes were sown the wheat nearly all killed out and there was scarcely any to harvest, while the rest of the field was good. The clover, however, did well on this acre. I tried the same experiment at the same time on another lot with the same result. Dana Waldron.
Wolcott, N. Y.

Tobacco for Insects. — Many insects can be destroyed by the use of tobacco dust or smoke, but for insects on orchard trees tobacco water will be better. I find it is very effective as a remedy for plant lice. To be effectual it should be applied before the leaves have closed over the insects. The decoction may be made by soaking a peck of tobacco stems in a tub or barrel of water for 5 or 6 hours. If wanted for immediate use the water should be hot. B. C. Grant.
Corunna, Mich.

Calves vs. Butter.—Having 6 or 7 cows giving milk each summer for the past three summers, together with the low price of butter here in the summer, caused me to try raising calves instead of making butter. When a cow brought a calf I went to a nearby dairyman and bought another young calf and made the cow raise both calves until they were three months old. Then I weaned these calves from milk and bought another calf, or perhaps two if the cow still gave a good flow of milk, and had her to raise these until they were three months old. In this way I have raised from 21 to 24 calves each year for the last three years. This was easier on my wife and myself, and was more profitable than making low priced butter. Up to weaning time we keep the calves all in a lot together and feed them bran, oats and shelled corn in a long trough where they could all get at it. The little fellows learned to eat when very young and were in good shape to wean when three months old.
Oklahoma City, Okla. B. F. Dougherty.

Kale and Lettuce. — Perhaps some of the lady readers of the P. F. would like to hear how I manage my kale and lettuce for winter and early spring use. When my potatoes are dug the latter part of August my ground is prepared for kale. I sow the kale and lettuce mixed, giving it a start for winter. All the protection it gets is canes thrown over it lightly; the kale canes protect the lettuce. The coldest weather we had last winter was when snow was on the ground and this protected it. I and my neighbors had all we could enjoy. The green curled Scotch kale is a very fine variety. Stands the winter well. Mrs. E. E. Higgins.
Jefferson, Md.

Paying High Prices.—A mistake that I have often made is that of paying high prices for some household goods, such as are sold through agents. Numbers of our hard working farmers are being duped into paying extortionate prices for goods, by smooth-tongued agents who are travelling through the country. The best way is to give them a wide berth. Of course, there are some agents who sell good articles and at reasonable prices. Farmers should be careful where they deal and where they place their signatures.
Why Not, N. C. Geo. F. Garner.

Marketing Produce. I have been much gratified with my success in marketing my berries, cucumbers, squash, green peas, Bermuda onions, new Irish potatoes and string beans. I secure a list of vegetable dealers from the express company and quote them prices of my products f. o. b., sent C. O. D., I to pay the return money charges. I find this plan much more satisfactory than the old, my customers are well pleased and my business increases at a rapid rate. The commission man's 10 per cent. I save and avoid the rascality of a goodly number of sharpers who formerly quoted high prices and sent very lowest sales. W. E. Embry.
Dade City, Fla.

Cooking Rhubarb. — Wash the stalks and cut into inch pieces without peeling. To three cupfuls of rhubarb take two cupfuls of sugar and cook slowly in a granite kettle until tender. Do not stir and do not add any water, as juice of rhubarb will make sufficient syrup. The separate whole pieces of rhubarb in the clear red syrup make a most inviting looking and delicious dish of sauce.
Steubenville, O. Mrs. F. Rhinehart.

Deep Ditches.—Several years' experience has taught me that to raise a garden in the South there is one thing above all others in importance, and that is good drainage. By this I mean deep, open ditches; water furrows merely, will not do. My garden this year being on a sloping piece of ground where no water could possibly stand, I thought it would not pay to dig deep ditches. Almost incessant rains filled the ground with water until it seemed to soak up into the hillside like water into a sponge, consequently I could plant nothing until nearly time I should have been marketing and the season was almost a failure for me. A few ditches 18 inches to 2 feet deep probably would have made more than $100 difference to me this year. Chas. S. Anderson.
Jennings, La.

Starting Tomatoes. — Nearly everyone likes to raise a few tomatoes for family use, but few farmers have the conveniences for starting them to the best advantage, and as buying plants is not always satisfactory, it becomes necessary to start them in sunny windows in the house. But until recently I did not have the best success with this method. I find that failure may result from any one of the following causes: Sowing seed too early so that plants become stunted before planting out; keeping the young plants in too high a temperature; using too rich soil, and planting wrong varieties. I now get good results from sowing the seed in March in small boxes filled with only moderately rich soil, as too much fertility causes a rank, weak growth. Keep in the sun, and a moderately warm room is much better than a very warm one. As soon as the plants are large enough to transplant and when they begin to crowd each other, transplant to larger boxes and later to still larger ones. When they are 6 inches or so in height plant them in old tin fruit cans, using the 1-quart size. These should have the tops cut off smooth and a few holes punched in the bottom for drainage. Put one plant in each can and when the weather gets warm enough bring them gradually out of doors, guarding against high winds at first. When severe frosts are past select a warm, sunny spot and sink the cans to their rims in the soil close together. Then make a box out of boards, similar to cold frame, with cloth cover tacked to a frame of its own to place over the top in cold, rainy weather and when frost threatens. If watered and cared for they will grow nicely here till planting time, when by soaking them well with water they may be slipped out of the cans and planted with but little check in their growth, as the roots are disturbed but little. Fibrous soil is the best in the cans, as it clings better to the roots. We have had best success with Earliana and Earliest of All, as our seasons are too cold and short for many of the later kinds. Burpee's new Quarter Century is very good, and on account of its strong, dwarf growth may be planted much earlier in the house than most kinds, though with us it is not as good as some of the others. Some much-praised varieties fail entirely with us.
Hardwick, Vt. S. S. Chandler.

Pastry for Potato Bugs.—Farmers who raise from half an acre to two acres of potatoes and do not want to go to the trouble and expense of spraying them with Bordeaux mixture and Paris green, will find the following mixture will kill the bugs. Get 25 pounds rye flour and 1 pound Paris green and mix them thoroughly. Now have a baking powder box with the bottom punched full of holes just large enough for the mixture to sift through freely. When the potatoes are about 8 inches high or just before the bugs begin to hatch, go through and give a shake of the mixture in the centre or heart of each stem. Put it on in the morning when the dew is on and the flour will form a paste. One application is generally sufficient for the season unless there are many severe rainstorms, when a second application may be necessary. This quantity will be sufficient for one acre. If rye flour cannot be had, any kind of cheap flour will do, but will not last as long as rye. Jos. E. Fischler.
Spicewood, Pa.

Success with Pansies.—Last year I answered an advertisement of pansy seed. I received the seed quite late and as I wanted it to start quick, I planted it in a shallow pan in the house. After sowing the seed I sifted just enough fine dirt on to cover them, pressing it down. I then covered pan and all with a thin cloth and watered through cloth, keeping the soil quite moist, and in three days they were coming up. I transplanted them twice in pan and the last of May planted them out in the garden. When the dry weather came on I watered them every other evening through the mulch. By keeping the blossoms picked off I had flowers from June until November, from about 70 plants. They were my first pansies. Mary L. Smutz.
Linn, Kan.

Planting Trees.—Do not make the mistake of not planting trees for shade and ornament and when necessary for windbreaks. Two years ago we set some young elm and walnut trees. This spring we purpose putting out some chestnuts and sugar maples. The sugar maple is really about the best all around tree we have here. Its thickness of foliage, symmetry of growth and resistance to storms commend it for extensive general planting. We have found it better to plant smaller trees rather than the largest we can conveniently handle. With the little tree we can keep much more of the root proportionately and I find that in four or five years time a tree that when transplanted was one inch in diameter at the surface of the ground has attained a greater thickness of stem and seems to be in better health than one twice its size transplanted at the same time. E. J. Adkisson.
W. Nashville, Tenn.

Curing Gapes. — First, select a hen's feather. Tall feather with very small rib preferred; strip off all except extreme end of feather. Now double feather back about one-fourth of an inch from the end and grease with a little lard in which you have put a drop or two of turpentine. Take the chick in your left hand and as it gapes you will see its windpipe expand. Watch your opportunity and insert feather in windpipe, running it down the full length of windpipe, but no further, turn feather around a time or two and withdraw. You will doubtless find two or three red, thread-like worms on feather. If the chicken still gapes, try again the next day. Sometimes the turpentine kills the worms and the chicken coughs them out. Out of dozens that I have cured I killed two, one by putting carbolic acid on feather and the other by running down too far, as it was small and the feather too large for it. It is a difficult operation, but I have found it very successful. Mrs. E. A. Mills.
Bluff City, Tenn.

Marketing Peaches. — Last year and for years previous we made the mistake of selling early varieties of peaches in regular peach baskets, which sold for 30 cents each. Overhearing our grocer say he could "make three baskets of one," we decided to do it for ourselves. They sold readily for 18 cents each, or 21 cents more for peaches. That this is a common mistake is evident from the remark of a dealer who said, "I sell these small baskets almost entirely to grocers." Fruit growers should take notice and reap the benefit themselves. Mrs. W. T. Hall.
Lockport, N. Y.

ARMSTRONG & McKELVY	Pittsburgh.
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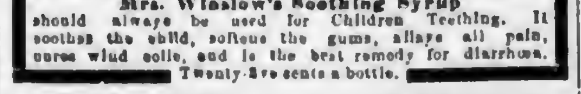

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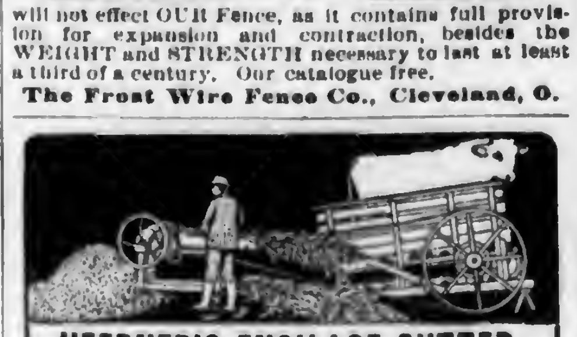

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The Standard Wagon Jack ought to be in every P. F. tool house. It is light, compact, and yet effectual. A dollar pays for one, or sent free (receiver paying freight) for a club of 6 yearly subscriptions to the P. F. at 50 cents each.

We have been doing a land office business in Oil Stoves. The occasional hot days remind the women folks that something more desirable than the wood or coal cook stove is needed in the kitchen. Our Brightest and Best Wickless Oil Stove completely fills this need. The touch of a lighted match gives you a fire ready for business. A turn of your finger makes it cold iron. And a cool kitchen whether the stove is in use or not. It is the acme of comfort for the women folks in the hot July and August days. A club of 50 yearly subscriptions to the P. F. at 50 cents each will give you the stove and oven illustrated on this page absolutely free east of the Rocky Mountains, and for only $2 extra west of them. A boy or girl in every P. F. family not provided with such a stove, could make up such a club in these pleasant June days, and give their mother comfort for many a summer to come.

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Look over page 393, last week's P. F., for the attractive premiums we give for those 6-name yearly clubs. The books described on that page should be in every P. F. home, and you can get one or all of them free by sending us these clubs of 6. The clubs are seasonable every week in the year, and every day's mail brings us several of them. The P. F. at 50 cents per year, as in these clubs, is the greatest bargain of the day.

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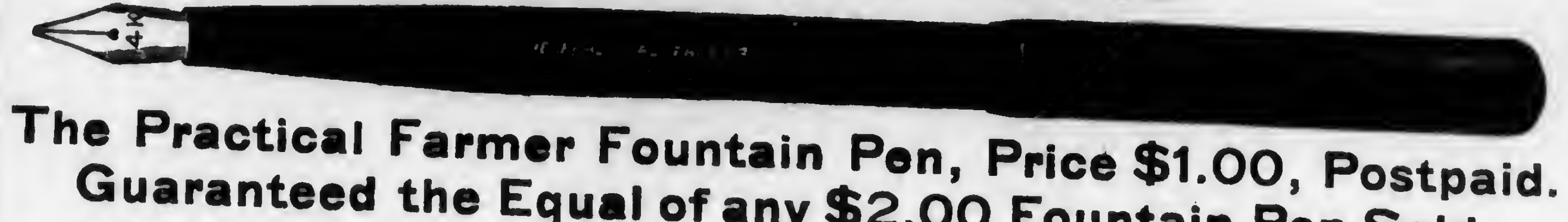

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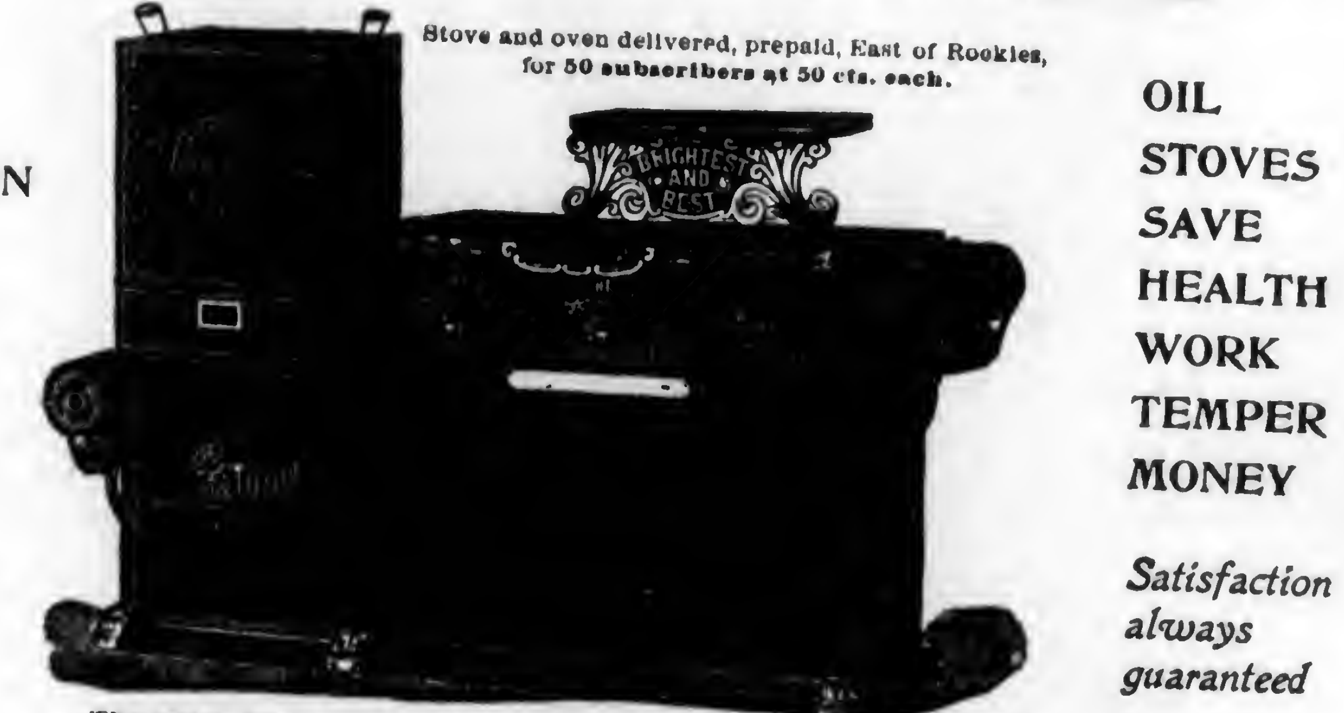

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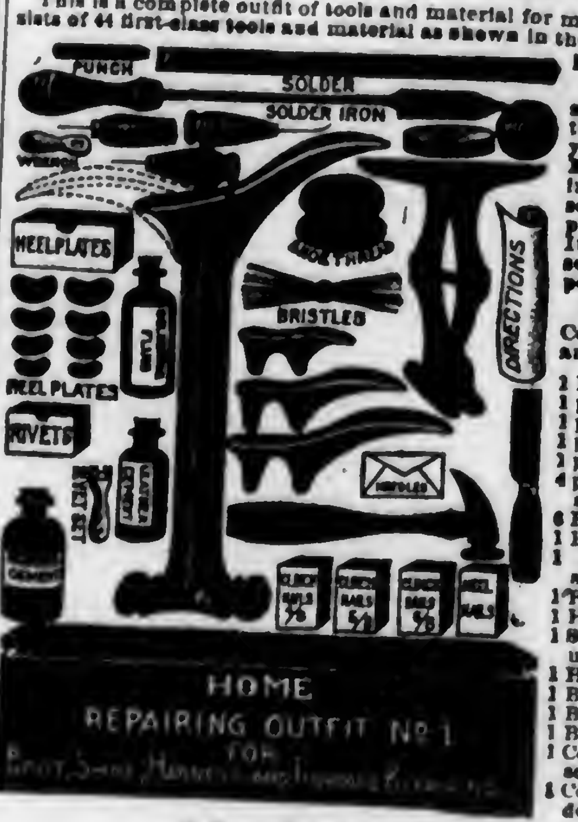

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THE FARMER CO., Market and 18th Sts., Philadelphia.

Postal Card Correspondence.

This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

Located in Northeastern Pennsylvania, Susquehanna Co., one mile from New York State line, 3 miles from Susquehanna, where the Erie R. R. shops are situated, making it an excellent market for farm produce. April was very cold. Has been very dry for past month; very warm past two weeks. Forest fires doing considerable damage throughout county. Potatoes and corn planted and coming up; oats are very thin and grass seed not sprouting at all; pastures and meadows are drying up. Farm help unobtainable. Horses scarce and high priced. Prices: Hay, $13 per ton; native beef, 6c. per lb., dressed; young pigs, $3 each; milk, 89c. per 40-qt. can; apples, 60c.; potatoes, 60c. per bu.; butter, 25 to 30c. per lb.; eggs, 16c. per doz. We need free rural mail delivery, telephones and better roads and better schools.
MRS. E. E. SMITH.
Susquehanna, Pa., June 2, 1903.

Farmville, in Prince Edward Co., is our nearest market. Millions of pounds of tobacco are sold there annually. Two railroads give connection with East, West, North and South. With a population of between three and four thousand, there are churches of four denominations, besides two fine churches for colored people. Good public schools which run for 9 months; the State Female Normal School is situated there. Hampden-Sidney College for boys is only a few miles from Farmville. We live 5 miles from Farmville in Cumberland Co. Public schools only run 6 months in this county, while in Prince Edward Co. they run 7, and in Farmville 9. Spring work was much hindered by wet weather, and now we are having a dry spell and land is almost too hard to plow. Corn is nearly all planted, and farmers are working their tobacco land. Wheat and oats look well. The warm weather of February and March brought out the fruit blossoms and a frosty night in April killed most of the tender fruit. Strawberries are ripe now and seem a fair crop. Farmers are planting more potatoes, tomatoes, peas and other vegetables this year and less tobacco, as there is no prospect of good prices for tobacco. Butter is 25c. per lb.; eggs, 12½c. per doz.
MRS. E. B. LANGSLOW.
Box 33, Farmville, Va., June 1, 1903.

Located at Gypsum, Eagle Co., Col., over 6,000 feet above sea level. Farming is done by irrigation. There is plenty of water this year, as lots of snow fell on the mountains. Commercial crops are alfalfa, oats, timothy and potatoes. Two cuttings of alfalfa are obtained. It is sold in the fall to cattlemen from the ranges. Lots of cattle are wintered in the valley. The range has been rather short this spring, but cattle are doing well; quite a number died in spring, owing to scarcity of feed. No sheep are allowed on ranges. One-half of the alfalfa died last winter, so it is predicted that feed will be scarce the coming winter. Spring is very late and cold. Farm hands get from $30 to $40 a month; cooks, $25 per month; land is high and not much changing hands. Oats are being sown for feed. No hay to sell.
O. F. SUNSTEDT.
Gypsum, Col., May 26, 1903.

At Leicester, N. C., 12 miles west of Asheville. Weather somewhat backward; farmers behind with their work. Some corn not planted and not much hoed. There has been very little rain for about a month. Farmers are beginning to realize the need of improvement. They are beginning to read farm papers. A great many cow peas and clover sown. Very little tobacco about here. T. G. HIGGINS.
Leicester, N. C., May 30, 1903.

Located in Central Sonoma, 11 miles from Santa Rosa, the county seat. This is a fine climate and fruit grows to perfection. The farmers are busy cultivating their orchards and vineyards. Lots of grapes grown here for wine, which bring $25 per ton. Prices of farm produce: Wheat, oats and barley, $1.50; potatoes, $1 per cwt.; cows, $30 to $50 per head; hogs, 6c. per lb.; hens, $6.50; young roosters, from $6 to $9; eggs, 16 to 20c. per doz.; butter, 20 to 25c. per lb. There are fine roads and good transportation facilities and good markets in this part of the country and lots of work in the orchards in the summer time. GEO. H. CHADD.
Windsor, Cal., May 28, 1903.

Forty miles southwest from Knoxville, a good market town of 40,000 or 50,000 inhabitants. A good county, with three rural routes. Am within 1½ miles of station on A. K. & N. R. R. Farmers waking up and improving. Many good farms in the county but many more show the effects of years of bad farming. Farmers behind with spring planting on account of too much wet weather in early spring, then dry for nearly a month; a good rain on May 28th. Wheat will not be as good as was expected earlier in the spring; will be ready to cut in about ten days or two weeks. Have been helping a neighbor put up a fine field of clover that will make about 100 loads. Prices: Good horses and mules, $100 to $150; plugs, $40 to $75; fresh cows, $20 to $40 each; hogs, 6c.; stock cattle, 3 to 4c. per lb.; wheat, 90c.; corn, 60c.; oats, 50c.; potatoes, $1 per bu.; poultry high; land all prices; most of it easily improved.
J. D. CLARK.
Kincaid, Tenn., May 30, 1903.

This from Marion Co., W. Va. Corn just now about all planted; wheat looking well. The finest growing weather that we have had this spring has been in the past week. Grass will be a short crop owing to drought earlier in the season; pasture land is looking fine now. Fruit of all kinds will be a very small crop. Timothy hay, $20 per ton; corn, 75c.; oats, 45c.; potatoes, 50c. per bu., and market dull; butter, 22c. per lb.; eggs, 14c. per doz.; chickens, old, 12c.; hogs, 6 to 8c. per lb., and can hardly find any for sale; good horses, from $100 to $200 per head The farmers are gradually striving to improve their stock by buying pure bred stock and farming fewer acres and tilling better. A great deal of truck farming is going on in this county; farmers and truckers doing well at it. Give us more pure bred stock and better farming, and the P. F. to guide us and we are all right. E. R. I. FREELAND.
Barrackville, W. V., June 1, 1903.

Situated in Cabarrus Co., 10 miles west of Concord on R. R. 2. Dry spring, cotton and corn are very poor stands except late planting; 85 to 90 compared with last year; wheat 70. Fall sowing of oats very good; spring suffering from drought. Corn, $1; oats, 60c.; wheat, 90c. per bu.; butter, 15c. per lb.; eggs, 20c. per doz.; farm help, $8 to $10 per mo.; land, $8 to $40 per acre; horses, $75 to $150; mules, $100 to $150; cows, $28 to $30 each; hay, $12 per ton. Climate dry and healthful.
JNO. R. BRADFORD.
Concord, N. C., May 30, 1903.

Considerable rain at present; farmers behind planting corn; wheat light; potatoes look fine, but the bugs are very bad. What would you do with them? Am in the garden business and have everything pretty well advanced, but the insects are very bad, and would like to know some remedy to get rid of the pests. R. P. ANDERSON.
Vienna, Ill., June 1, 1903.

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Chloro-Naphtholeum Dip.—Contagious parasitic diseases and lice have appeared among the live stock of the State of Wyoming, and State Veterinarian, Dr. G. T. Seabury, V. S., has sent out a proclamation, notifying owners of all live stock infected with Texas, Spanish, Range or Cattle Itch, mange or lice, that if they fail to treat their cattle until these diseases are cured, the stock will be placed in quarantine, and treated by the State Veterinarian, and all expenses will be taxed against the owner, the live stock being held as security. Dr. Seabury in this third section of his proclamation directs the use of a formula attached to the document: "My experience has proved that Chloro-Naptholeum Dip at one part to 25 parts soft water is an effective remedy for above diseases, and is also a sure eradicator of lice. It is highly recommended by the U. S. Bureau of Animal Industry and can be obtained from the manufacturers, the West Disinfecting Co., 15 E. 59th St., New York, or reliable dealers." Dr. Seabury also gives special directions for softening alkali water, before mixing with Chloro-Naptholeum Dip. In the treatment for mange, he insists on "the removal of the scab by means of the scrub brush or comb before dipping in vats; and would feel gratified if all stock owners having stock affected with the above diseases would use Chloro-Naptholeum, as we know by experience it will speedily eradicate same." While Dr. Seabury recommends a 4 per cent. solution—one part of Chloro-Naptholeum Dip to 25 parts of water—it has been found that even a weaker solution—one part of Chloro-Naptholeum Dip to 30 or 40 parts of water—gives successful results.

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THE PRACTICAL FARMER.

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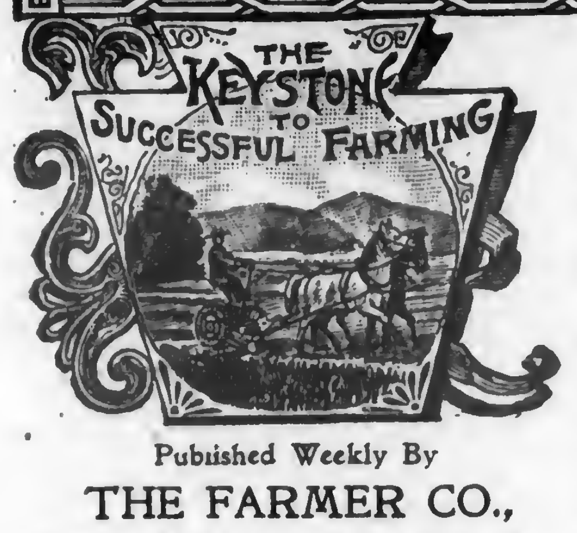
THE KEYSTONE TO SUCCESSFUL FARMING

Published Weekly By
THE FARMER CO.,
Market & 18th Sts., Philadelphia, Pa.

AGRICULTURAL.

SPECIAL NOTE.— Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

Will it Pay to Build a Manure Shed?

W. H. Thompson, Laings, O., asks the above question. Every farmer must answer it for himself, being governed by his conditions. From long experience I can tell you about some of the advantages of having a manure shed and some of the local circumstances that will make it pay best. First, an Ohio farmer cannot afford to let manure go to waste to any extent, certainly. The writer arrived at this conclusion a third of a century ago, and has worked and preached accordingly. No need of arguing this point, as all good farmers will agree upon it. It is now simply a matter of how the manure can all be saved to the best advantage. Cement floors in the stables and plenty of straw to soak up all liquid settles the question in the barn. But now the manure, liquid all saved and absorbed by the straw that is mixed in with the solid, if thrown out of windows, or wheeled out in an open yard, in our Ohio climate, will soon leach out badly. One might almost as well have not had the cement floors in the stables. This is a fair conclusion, isn't it? Straw absorbs the liquid; rain will wash or leach it out. If manure is under the eaves in piles and water from the roof comes down onto it, the loss will be great. The same loss will occur if manure is spread around thinly in an open yard. In a barnyard 4 rods square there would fall in one good shower, bringing an inch of rain, about ten tons of water. During our open winters and in the spring this would be likely to be repeated many times. In a few months certainly about half of the value of the manure would be leached away in many cases. Of course manure can be kept carefully piled up away from the eaves and surface wash and the loss be made much less. Some winters one can haul the manure out directly from the stables onto his fields almost daily until towards spring. Further north, where the ground keeps frozen this can usually be done to good advantage. It is an excellent way where it is practical. During some of our open, Ohio winters, however, and after the ground thaws in the spring always, it is a job that I never would allow done where I had the management. The land is cut up and tramped in a way that I could not endure. I saw much of this kind of work being done last spring, during the wet weather, and could not help but feel that the farmers were injuring for the season their clay soil, oftentimes, about as much as the manure would do good. No such work as that for me. On real sandy land, of course the damage would not be so great.

You now see some of the conditions that made me think it advisable to build a manure shed. I went into it cautiously, in a small way, until I found the manure could be kept from fire-fanging and loss and everything was all right. Then shed room enough was added to hold the year's make of manure. Now we can keep it without any leaching, and practically without loss, until some time when the ground is dry in the fall and no other work pressing. It can be put on then with a spreader in the best possible way and without any injury to the land. Having the urine all in it, thus being moist, it does not burn, practically at all, if the stock is allowed out in the yard part of the time to tramp it. The shed, with us, is merely a flat tin roof supported by posts about 12 to 14 feet high, protected on north and west sides by our barn buildings. Then the east and south sides are planked up about 7 feet high. Through the 5 feet of space above the plank fence on east and south sides the sun can shine in. Thus it is a splendid place for stock to get a little fresh air and exercise, in the sunshine, protected from cold winds and storms. By using straw freely the manure is not over-soft. It packs down so as to make a fairly good floor. The shed is large enough so the winter's accumulation will not be more than about three feet deep on the average. The manure is not thrown in heaps, but spread all over the shed floor. The satisfaction to the writer is great when we have regular downpours of rain. He formerly piled the manure as well as was possible in the open yard. In the summer the cows come to the stable to be milked and return through doors in the other end of the barn, opposite the manure shed. The same shed is then used all summer as a place to drive in with wagons and tools. There is straw enough on top of the manure to make it dry. There are doors at nearly opposite ends so it is easy to drive in and out. Of course, we have a tool house for regular storage, but you all know how easy it is to not put things up when you are in a hurry and when it is some little work to do it. If we do not put them up they are still under cover, you see, as we can drive right in the shed before unhitching. The doors into the horse stalls are on one side of the shed, which makes it doubly handy. Also there are doors into the tool and carriage house. We have water in the shed. Take it all around, it is wonderfully handy in the summer time as well as in the winter. The cost was quite moderate; the advantages are many. I have not found a single disadvantage. You might think it would be unhandy to drive up onto manure three feet deep. We do not do this exactly. The floor of shed is graded along through the central part so when manure is three feet deep over much of the yard it is not very much more than level with the two doorways where we drive in or out. It is all right, my friends, every way, for our circumstances. It pays grandly in manure saved, again in comfort to man and beast during the cold, stormy months and still again in implements protected during the busy season. We have an earthen floor in the manure shed. As no rain falls on the manure there is no leaching. Straw enough should be used to hold all the urine absorbed. There is a very slow, moderate decay along through the summer, so the manure is in good shape to handle in the fall. The horse manure is mixed in thin layers with the cow manure. During the summer it is well to wet the horse manure as it is spread, and tramp it down. It requires some care to keep it from heating at that time. In cold weather the tramping of stock is all that is needed.

Some may find it best to build a 2-story manure shed, so as to use the room overhead for storing straw. This is all right, only be careful to locate it so it will not prevent the sun from shining into the south stable windows. Others like the shed enclosed below entirely, so young cattle, sheep and even cows can stay there loose all the time in winter. I have seen sheds of this kind where cows were kept and only put in the stable while being milked and fed grain. I have known of sheep being wintered in a manure shed, on the accumulating supply, fed in movable racks. They pack the manure by tramping around so it does not heat to make the air impure. A little land plaster, or acid phosphate, however, should be sprinkled over the surface when fresh manure is added from the stables. Straw enough should be used, of course, to keep the surface clean and dry. When the shed is all enclosed there should be plenty of windows so as to make it light and the more the sun can shine in the better. The windows should be arranged so they could be opened freely in mild weather. In a very snowy or cold locality an enclosed shed will usually give better satisfaction than one like ours. You will find from time to time uses for the manure shed that have not been mentioned. When we paint our houses all the blinds are taken off and piled up in the manure shed on some pieces of timber. Then when the painters are stopped by rain in their outdoor work they can come in and paint blinds. They are all dry and there is plenty of light and room. If they spatter some paint it will not hurt the strawy floor. Tools can be taken in the shed and oiled or repaired during bad weather. Harnesses can be served the same way. Not long ago Robert found one of his horses in a spring ditch that has a mirey bottom. The poor thing was badly chilled. He had just vitality enough left to struggle out when helped by the men. Then he went down flat. We thought he would recover his strength after a little, lying in the sunshine, and be able to get up; but he did not, and would have soon been past help. There was but one thing to do to save him, that was to draw him to the manure shed, on a stone boat, and get pulley blocks and ropes and raise him up and hold him in that position for a time. The soft floor and beams overhead made it a handy place for such work. After being partly held up for a few hours, and having had his legs well rubbed, he was able to navigate for himself. I might add that we have a rack in the shed, on the back side of tool house, for the storing of odds and ends of lumber. They are kept from decay, and are handy to get at and out of sight. The shed hides the manure also. There are no unsightly piles that a passerby can see. Again, there is no muddy barnyard spring and fall, as the stock go out in this covered yard only, for air and exercise during the winter season. Take it all around, the building of a manure shed paid us several times over and we would not know how to get along without it now. Perhaps what has been said will help some of our friends to decide whether it will pay them to do something along this line.

Health Hints. — Carrots. — White Bread.—Hot or Cold Water to Drink.— Joanna Brownlee, Little York., Ill., asks if carrots are digestible. She sends a clipping from some paper, which says they are totally indigestible; that they pass through the alimentary canal exactly as they went down the gullet. Alas, one often comes across such nonsense in print, from the pen of someone who cares more about making a sensation than for stating facts. As the result of careful experiments, made on healthy people, Blythe states that 76 per cent. of the dry matter in carrots was digested, and 24 per cent. passed away through the alimentary canal. Carrots, celery and cabbage have about the same digestibility. This conclusion was arrived at by analyses of food eaten and of the excrement that passed out of the body. This is the most satisfactory and natural way of settling such questions. Of course some people might not be able to digest carrots as well as the healthy persons did on whom these experiments were made. We differ much in our ability to digest certain foods. Heredity, our general health and the life we are following all have their influences. But I can find no authority for the sweeping statement that carrots are totally indigestible.

R. Hodson, Kibbies, Mich., asks just how wife makes white bread and how long after the sponge is set before she gets it baked. Many letters of this kind have been received, which Mrs. T. answered privately for a time. I am now requested to help her out. Take one pint of the soft yeast for each loaf of white bread wanted. Warm the yeast slightly and then stir it into the flour, in a pan, making a batter. Put it in a warm place to rise. When it is well started make up into loaves and put them into baking tins. Put these where it is warm, to rise. When they are about half raised take each one out and knead it down and replace in the tin. Let them stand in a warm place then until the loaves are fully raised. Wife makes up the sponge when she first gets up in the morning and usually has the bread baked by 9 or 10 o'clock, and even sooner if the yeast is real fresh and good. Directions for making the yeast and brown bread were given in the P. F. for April 18th. The same kind of yeast is used for both white and graham bread. White bread made this way is of the finest quality invariably, with us. We use the same brand of flour all the time. If the yeast is right and the system of making and baking always the same, one need never have poor bread. The uniform and perfect baking done in the oil stove oven helps. Wife wrote directions for making bread to Mrs. J. T. Matthews, Adams, Tenn., among others. This lady now writes that she has made both brown and white bread several times in this way and likes the plan very much. She says she made real nice white bread before, but finds this way much less trouble. She tells of passing on the knowledge by letter to friends of hers. Many of our friends have been using this method of bread making for years with great satisfaction, as we know. Do not give up if you do not get everything just right the first time. When you once learn you need never have a poor batch of bread, if yeast and flour are right.

W. J. Davis, Shiloh, N. J., writes that he was surprised to read in the Youth's Companion that a wineglassful of ice water taken before a meal might help the appetite without any of the drawbacks that come from taking liquor. Our friend says he has been taught not to drink cold water at meal time, as it retards digestion; that some hot water drank before a meal was the proper thing. Well, I read the health hints in the Youth's Companion with care, always. They are evidently written by a man who has knowledge and common sense. A wineglassful of cold water is very little indeed. It could hardly harm anyone. Why might it not stimulate the stomach a little, just as a cool bath on the outside tones up the whole system? Large quantities of cold water might retard digestion. A cup of hot water may be good for some, but surely not for me. I regard the drinking of hot water in this way as something of a fad. Hot water used externally is debilitating; why is it any different when taken internally? I do not favor ice cold water, but good, pure, cool water taken with reasonable moderation, is a healthful beverage.

T. B. Terry.

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Experience With Cow Peas.

W. H. RANES.

My experience with the cow pea extends back several years, and last season I gave them more careful attention than usual. I planted a dozen or more varieties the past season, commencing planting the 17th of April and continuing to plant at intervals until the middle of July. I find that some varieties require the whole season to mature, while others will mature in sixty to seventy days. The Unknown requires the whole season to mature, and as a soil builder it is unexcelled, as it sends its roots deep into the soil and gathers a vast amount of nitrogen from the air. In fact, I find the roots of this pea covered with nodules. The next best pea for the soil is the Large Clay. It requires about the whole season to mature its crop, and makes an abundance of vines and roots. The Brown Crowder is a good pea for the soil or for hay. The Gray Goose is a fine pea; medium early, and the same might be said of the White Black Eye, Black, and Lady peas. I find that the vining varieties are far more valuable as fertilizers than the bunch peas. The Small Clay is a good pea and an early pea; a great producer of peas; matures in sixty to seventy days, but this variety is not so good a fertilizer as some of the other varieties.

In 1900 I had a field sown broadcast to peas, Whippoorwill, Brown Crowder and Large White Black Eye being the varieties used. All were sown in the last days of June and the first days of July and all were cut for hay in September. Then the land was replowed for wheat and all treated alike. The Whippoorwill and Crowders were on adjoining plats, just a dead furrow between them, and from the time the wheat came up until harvest you could tell to a line where the Crowders came to by the more luxuriant growth of wheat, and the yield was more than double on the Crowder stubble than what it was on the Whippoorwill stubble. So there and then I decided to plant or sow no more Whippoorwill peas, for I find that it takes the best soil to grow them, while the Unknown, Large Clay and Crowder make a very good growth on comparatively thin land, and as soil builders, I must say that I have found the Whippoorwill, Small Clay, Warren's Early, Warrens's Hybrid, Old Man's and Bunch Black decided failures; and I might almost say the same for the greater part of these varieties so far as hay is concerned, unless sown on very good land. These early varieties of bunch, or semi-bunch peas may answer their purpose where the season is too short to grow the later varieties. As a soil builder I would prefer red clover at all times to the cow peas, as I am convinced that on our land and soil that one crop of clover is far more valuable in improving the fertility of the soil or for hay than cow peas, but in many cases the cow peas will work in well where it would not be convenient to sow red clover. Also in localities where clover does not do well it is far better to sow cow peas freely. At least all wheat and oats stubble should be sowed to cow peas unless it is seeded to clover. We always aim to sow all unoccupied land to peas. They are good for the land, good for the cows and poultry. I find no feed for poultry that will fill the egg basket any faster than to let the hens have access to cow peas in winter.

White Co., Ark.

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Irrigation by the Government.

J. A. PEARSON.

I have followed your advice in regard to farm practices for years, and have always found it sound and practical, and have come to regard you as the best authority on general agriculture in America, except, perhaps, Mr. Terry, but I find you in error on the subject of "Irrigation by Government." Briefly, the Government does not propose to provide free water for land that has already been homesteaded, and it does not intend to tax the East, or any other part of the Nation to redeem arid sections of the West. What it proposes to do under the new law is to set aside certain areas now unoccupied and known as desert land, that it is practical to irrigate from storage reservoirs, and after making careful surveys and estimates, sell this land in small tracts to qualified homesteaders, who will actually reside upon it, after water is provided, at a price sufficient to cover present value of land and cost of water.

In this way the Government can market land that in its present condition is unsalable and regarded as worthless, and at the same time provide homes for its homeless, at a price the poor can afford. This certainly is a commendable enterprise and good business policy. It is not practicable for private parties to do this and accomplish the object the Government has in view, which is to provide homes for its people. Private parties would have to see a speculation in it before they would invest. The Government desires to protect its common people from speculators. A company in this State which bought a tract of this desert land from the railroad and reclaimed it with a ditch are holding it at $30 per acre. It is estimated that the Government can provide water at about $12 per acre. Any man of common sense would pay the cost of reclaiming it rather than take it as a gift in its present condition. As ten acres of such land, with water, will support an ordinary family, you can readily see that under Government management it is a poor man's proposition. The East will not be taxed one penny. The expense will be paid where the land is located, and by the people who settle upon it. This fact is also equally true in regard to land granted Western railroads by the Government. For every section of land the Government gave any Western railroad, it reserved the adjoining section and doubled the price on the reserved section. By this wise policy the Government encouraged the construction of railroads across uninhabited stretches of desert country that could not have been built without this aid, and at the same time it realized as much for the alternate reserved section as it would have received for the whole amount without aiding the railroad, and by granting the subsidy it unquestionably hastened the sale of its reserved sections and the development of the West by at least fifty years. Such wise policy on the part of the Government is what has made us the great nation that we are today. It is also what has built up factories in the East to furnish employment to American workmen at the highest wages paid in the world and provide a superior market at your front gate for your Eastern agriculturists. The development of the West and its trade has done as much to foster your Eastern factories and trade centres and create a local market for your farm products as you have done yourselves. We furnish the best market for your manufactured products you have. Under this new irrigation law the Government is trying to provide homes for your surplus population and extend the market for your surplus goods.

In conclusion, friend Massey, I find it safe policy to stand by the acts of the American Government. History proves it has always been right, and we are sure to fall behind the march of progress if we straggle out of the procession. If there is a man in the East who can prove that he has been taxed a cent on account of subsidies granted Western railroads, or will be, under the provisions of the act for irrigating arid land by the Government, I will gladly assume said taxes.

Arlington, Wash.

[Did not the public lands given to the Western railroads belong to all the people East as well as West? Did not the railroads make valuable the other lands through which they ran? Did not the Government then give away the lands, the property of all the people, and throw their products by cheap railroad freights into competition with the farmers of the East who had paid or had to pay for their lands without any help from the Government? Is there any guaranty that after the desert lands are placed under irrigation they will not, in like manner, be given to foreign immigrants just as the plains east of the Rockies have been? If it will pay the Government to provide irrigation for the desert lands why would it not pay the States in which the lands lie, or private corporations, to do the same thing if the Government sold them the land at a fair price? Is the whole country so crowded that there is any need for the settlement of these desert lands? If settlers are to pay the Government a fair price for the lands, can they not get all the land they need where there is rainfall enough already? Our population is far from being so dense that there is need for these areas. There are millions of acres in the Southern States that can be had cheaply and where population is needed and irrigation is not needed. When the population becomes so dense that there is a real need for the opening up of the desert lands the work will be done, but so long as there are countless millions of acres ready for the plow and waiting for owners, we cannot see why the Government should enter into a costly work for the opening up of lands that are worthless without irrigation. You say that it is to "get homes for its people." Is the Government under any obligation to get homes for its people? All that a Government should do is to give every man a fair chance in the battle of life and let him make his own home as the Eastern farmers have been obliged to do.—ED.]

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Wind Power.

BONIFACE STRITTMATTER.

Over two years ago we decided that we needed a power of some kind, so that we could do our own feed grinding and cut or shred our corn fodder, as we were tired of feeding corn fodder in the whole to stock, as there was too much waste, besides the stems being a nuisance in the manure. After investigation we purchased a 12-foot power windmill, which was erected on barn, September 8, 1900. It is on wooden post which extends down to floor, braced below rafters and fastened to other timber of barn lower down. Shaft extends down on the side of same post direct to grinder, which is fastened to post, and 2½ feet from the floor, and is fitted with a 15-inch pulley for operating other various machinery, and occupies very little space. It does all our own feed grinding, corn meal for family use, graham flour and crushed wheat, which averaged 40 bushels per month ever since we have mill. Operates a feed cutter with crusher attachment for corn fodder, and a 12-foot elevator, which cut and crushed and delivered through the elevator all our corn fodder. We cut all the straw that we use for bedding our stock, which is from 40 to 50 head, with our wind power, and found that it pays well for doing so.

In a heavy wind we can cut corn fodder or straw fast enough to keep two men very busy in getting it to the feed cutter. It also operates our corn sheller, which was only arranged to be operated by hand, but by making a 12-inch wooden pulley and placing it on the side of fly-wheel, and making a feed table so that it could be fed faster and more conveniently, it works right well, as it shells as fast as the ears can be dropped in one after the other. It is only a one-hole sheller, but being speeded up more than double the velocity than could be possible by hand and can't choke down the power, we can shell, in a light wind, more than five times as fast as by hand. In a heavy wind the mill develops about 4-horse power, and will grind from 12 to 15 bushels of feed per hour. It don't run too fast in a storm, but only to a certain speed, which can be changed for faster or slower in a few minutes time. Mill requires no attention when grinding and will grind in a gentle breeze. But more than that, it stops itself when hopper becomes empty, caused by a very simple and inexpensive attachment which we have put to it. The only running expense of mill was the oil, as there was no outlay for repairs, and the mill, apparently, is as good as new.

Cambria Co., Pa.

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Some Cover Crops and their Utility.

GRANT DAVIS.

Cover or catch crops are, primarily, for the preservation of the soil and are worked in between the other crops without materially disturbing the rotation. The loss of the fertility of the farm should be a matter of as much concern to the owner as are the losses which may shrink his financial investments. The farm is his capital and he should strive to keep that capital good. One of these losses is the carrying off of the nitrates by drainage in autumn and winter. During the warmth of summer the nitrogen compounds of the soil are largely transformed to nitrates in which the nitrogen becomes soluble. While crops are growing on the land this soluble nitrogen is largely saved. With no hungry rootlets to take it up it is caught by the heavy rains of autumn and carried off in the drainage water.

Deherain has made careful experiments to find out the extent of this loss of nitrogen. He states that for an average season there leaches away 35 pounds per acre, equal to 220 pounds of nitrate of soda. You may ride through the country in winter and see field after field of corn stubble bare of any green vegetation. Every heavy rain takes away some of the fertility of these unprotected lands, not only in the way indicated, but also by the washing away of the soil itself. This is particularly injurious on clayey and hilly ground places, perhaps, where the soil is already too thin. The cover crops absorb a portion of the rains and their roots bind the soil particles together so as to resist the denuding effect.

Crimson clover, in its latitude, is one of the best of catch crops, on account of its rapid and late fall growth. It is best sown in growing corn and tomatoes or in orchards during the months of July and August. It makes a vigorous growth early in spring and can be plowed under for spring crops or left standing for pasture or mowing. I have made a success of it by sowing in corn before the last cultivating, 12 to 15 pounds per acre, dropping oats from the rotation and plowing under for wheat. Dwarf Essex rape, although not a nitrogen-gatherer like the clovers, has some advantages as a cover crop. It may be sown in corn and it is my experience that it will stand more dry weather than crimson clover will and when ground is good will make abundant fall pasturage. Rye is a good catch crop where soil conditions are such that other crops will not thrive.

Some experiments made at the Cornell Station, N. Y., with Canada peas and buckwheat for fall planting in orchards, showed them to grow so thrifty and cover the ground with such a rank growth as to interfere with the gathering of apples.

New Jersey.

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Saw Dust as Bedding.

D. WALKER MC KEEN.

Noticing the question of D. F. Dalzell in regard to the use of green sawdust as bedding, I would like to give him, and your other readers, the method adopted at the "The Pine Dairy" in the use of sawdust, together with the results that have been obtained. Years ago we began utilizing everything possible for food for our farm animals, and by so doing became short of suitable material for use as bedding and absorbents. We, at first, used many tons of dry loam and road dust, in summer, but this was not satisfactory; the material, at best, was heavy to handle, and large amounts of it were necessary if we would keep our animals clean, and properly absorb the liquids. Then, by its excessive weight, it would tend to press the liquid from the manure pile. After a time, we began the use of green sawdust, but with some misgivings. While this was an improvement over the loam, it was far from satisfactory, either in the application or in its effect upon the soil. After studying the matter with some care, the thought came to us that if the sawdust could be dried out, it would be of great value for our use. About this time I happened to visit a town where a portable sawmill had but recently been moved away, and where there was a large pile of sawdust. I took time to examine this thoroughly, and soon found that it had dried out by its own fermentation, and that it was in the process of decay. I took a few sacks of this dried sawdust home and found it to fill the bill perfectly. This was our "starter." We then made a bin large enough to dump three or four cords of sawdust into, and immediately filled it. In a short time this sawdust was in first-class condition for use as an absorbent. In summer our horses are bedded with it, then the mixture of manure and sawdust is put on the manure from the cows, which are stabled every night with liberal amounts of sawdust under them. In winter the sawdust is used in connection with straw under the horses, and then the same mixing is practiced.

Now, as to the results: First, and most important, our horse stable is kept free from bad odors, by the rapid absorption of the urine, our horses are kept clean and comfortable, our cow tieups are likewise clean and free from odors, and as the liquid manure is all caught and held by the sawdust, we have a complete manure, and all that has been made, to apply to our land. By the mixing of the farm manures in the way I mention, and the frequent leveling of the heaps, there is no heating. The manure is stored in a basement. Our hogs are in pasture in summer, not on the manure. Second, and also of great value is the general effect upon the soil of our farm, and the crops grown. As this manure is drawn to the fields there is no trace of the sawdust to be found in it. It is spread evenly with a Kemp manure spreader, plowed under with a rolling furrow, about six inches deep and the land planted to potatoes. This practice has been continued over a period of more than twenty years. Our potatoes, put into the market with others grown on land where no sawdust was ever used, rank well and sell at top prices. We placed 1,500 bushels in the market last season, and while other farmers were bringing home small, unsound and rough potatoes that had been thrown out in the sacking, ours were placed immediately in the car or storehouse, as the case might be, without racking, and were frequently used to top car loads with. Third, the general effect upon the crop-producing capacity of the soil; our land is a clay loam, somewhat inclined to clay. Ours is a five year rotation as follows: Potatoes, corn, clover and grasses two years, pasture.

Under this system, by the perfect husbanding of our manures, both liquid and solid, by careful application and complete mixing with the soil, by thorough tillage and clean culture, we have seen the capacity of our land increased each year, till it has carried practically an animal to the acre, affording all the coarse fodder used, including the pasture. In the light of my own experience, I believe Mr. Dalzell or any other farmer who judiciously uses dried-out sawdust as a bedding and absorbent, will find it very convenient and of great value.

Fryeburg, Maine.

[Our friend does not say what kind of sawdust was used. We suppose from his location that it was the white pine. Had he used the resinous long leaf pine of the South we are very sure that he would have had different results. And if he had been working sandy soil we fear that even there he would have had worse results. We have given the sawdust bedding a very thorough test in comparison with manure made without any sawdust, but with the ordinary forest leaf bedding, and the result of our test is that we would not value the sawdust manure at half as much as that from stables where the leaves were used. In fact, on a piece of sandy soil we would not allow the sawdust manure to be used on any account. But there is doubtless a great deal of difference in the kind of wood from which the sawdust is derived. It would take a good many years for our Southern pine sawdust to disappear in the manure as you say this does.—ED.]

QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Canada Peas or Cow Peas. — A. Graver, Lose, Pa.—"Will Canada peas do better here than the cow peas? Will the peas do well on rye turned under? Land mainly heavy limestone clay, in Ligonier Valley of Westmorelond Co." It can hardly be predicted which will be best in your section, without actual trial. In a mountain country and on a clay soil in your latitude the cow peas may not do very well, but are worth experimenting with. The Canada peas, to succeed, will have to be sown as early as possible in the spring, and they may do well, but you are rather far south for them, and rather elevated and cool for the cow peas. We suppose you refer to the cow peas on land after rye is turned under. They will do as well there as anywhere, and now is the time to sow them. The Whippoorwill is the variety for you to try in your section.

Fertilizer Query. — A. A. Austin, Paris, Ky.—"Is nitrate of soda cheap enough at two and a quarter cents per pound f. o. b. Baltimore? Is a fertilizer analyzing soluble phosphoric acid, 3 per cent.; reverted, 5 per cent.; nitrogen, 2.47 per cent., and potash, 10 per cent., cheap enough at $36 per ton? If applied broadcast, will very dusty fertilizer be wasted by blowing away in a moderate wind? If left on top of the ground for some time, exposed to the sun, will the fertilizer be injured?" The price named is about what the nitrate commands. The fertilizer named is a very high priced one for the analysis. You ought to be able to buy the materials and mix a fertilizer of the same analysis for about $25 a ton, using acid phosphate, tankage and sulphate of potash. If fertilizers are scattered in a moderate wind it depends on the size of the field as to how far the material may blow, and, of course, there may possibly be some little loss, but not a great deal. If fertilizer is left on the surface there may be a slight evaporation of ammonia, but no loss of phosphoric acid or potash.

Cow Pea.—G. Davis Neavitts, Centreville, Md. — "Would the New Era cow pea, sown with a wheat drill, be easier to cut and handle than the other varieties, and would it yield as much hay per acre?" It would be easier to cut, but the crop would not be so heavy as with the later and heavier growing varieties. None of the extra early peas make a heavy crop of hay. For your section we would prefer the Black.

Pasture in Pa.—A. S., Del. Co., Pa.—"I have 12 acres of poor, sandy land sloping to the north and a stream of water. It is to be seeded to rye next fall, with grass if possible for permanent pasture; pasture to be ready in spring of 1905. How would you treat that field? How much grass seed and what kinds? How much fertilizer and what kind? Field now in grass but almost bare." We would plow that field at once and give it a dressing of 300 pounds of acid phosphate and 50 pounds of muriate of potash per acre, and sow it in cow peas. Let the peas die on the land and plow them under for rye and grass. Give the rye simply another dressing of the acid phosphate alone, and sow the grass seed at same time. Sow a mixture of 10 pounds of orchard grass, 10 pounds of red top and 5 pounds of Kentucky blue grass per acre. The rye will give you some pasture in the spring, but you should not pasture the grass hard until the sod is well established. Keep the grass top dressed with any complete fertilizer annually, using some nitrate of soda at rate of 50 pounds per acre with the acid phosphate advised, and you will finally be able to build up a sod on the land.

Onions in N. C.—J. J. Wilkins, Kings Mountain, N. C.—"I planted two bushels of onion sets in March and they are doing well. I want to plant an acre of onions in September and would like to know where to get the Yellow Potato onion sets." You would have done better to have planted the sets in September and to have bunched and sold the onions green in March, as we did. If you want to grow onions for the ripe crop you should sow the seed as early as possible in the spring and thin and cultivate well, and you can grow the best onions, and the only ones that will keep, in this way. You can get the Yellow Potato onion sets from Wm. Henry Maule, Philadelphia. These should be planted in the fall, and will make fine ripe onions to sell in June. But as they are poor keepers they must be sold at once, and the small sets kept for the fall planting, for the Potato onion does not make seed.

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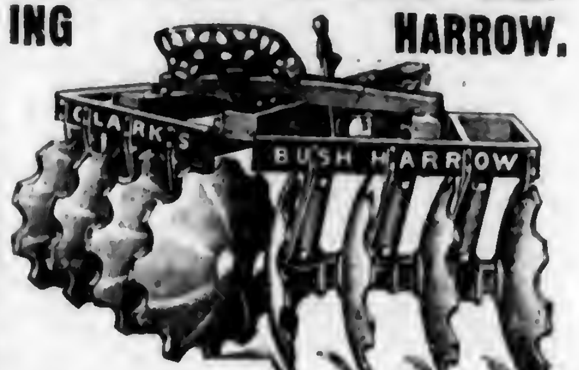

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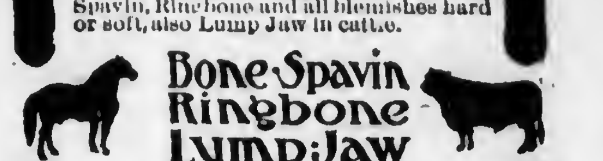

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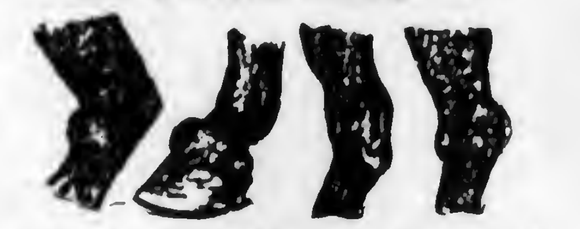

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VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 611 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

NOTICE.

Owing to the large number of queries received for this department we are obliged to use both the Stock and Veterinary pages for Veterinary.

Blood Poisoning. — I had two horse mule colts to die, one three days old, the other 36 hours. Both were sick about 24 hours; dull and stupid 6 hours at first; then pass pure blood in urine often; ears droop, groaning when they urinate. Worked mares lightly until day before colts were born. Was working mares the cause or not?

Dillard, Ga. JOHN F. RITCHIE.

Working the mare had nothing to do with the trouble, for it is an excellent plan to work brood mares right up to time of foaling, provided they are not jerked or otherwise strained. It is most probable that cause of death of both foals was blood poisoning, due to infection of raw navel cords. It should be understood that when the umbilical cord is severed the large umbilical vein is left open and forms a wide conduit for the introduction of germs from the filth in stable, bedding, etc. The navel usually becomes enlarged, wet and purple in color, or pus forms an abscess and secondary abscesses are then formed in the joints from pus being carried and setting up fresh colonies in a new location. Thousands of colts die annually from this unsuspected cause and all of them might be easily saved by a little attention at time of birth, but treatment of the sick is usually ineffectual. Preventive treatment is as follows: Provide a clean, freshly disinfected and whitewashed box stall for mare to foal in, and see that bedding is fresh and clean. When foal comes immediately wet the navel with a solution of two drachms of corrosive sublimate and one drachm of hydrochloric acid in eight ounces of boiling water, used cold. Repeat the treatment twice daily until the cord shrinks, drops off and no raw spot remains. This is to be done in the case of each colt, calf, pig and lamb born on the farm, for the disease is fatal to all animals alike. Before colt is allowed to suck wash external genitals with a 2 per cent. solution of creolin or other antiseptic. Remove and burn afterbirth and all soiled bedding. When foal is on its feet and has sucked a few times, remove mare and foal to an adjacent box stall specially prepared for them as was the first. Then clean out box number one; burn all bedding; wet floor thoroughly with strong disinfecting solution; scrub all woodwork with similar solution; then whitewash afresh and put down new, fresh, clean bedding when another mare or other female animal is placed in the box. By this means the foal or other young animal always comes into a perfectly clean, antiseptic place and navel disease is not likely to be contracted. In this connection it should be remembered that scours is very often due to infection taken in by way of the raw navel cord, so that the above system of treating the navel has the double advantage of preventing both blood poisoning in the form of abscesses and secondary abscesses and scouring of a fatal form. In the case of the foal in question the urachus or fetal urinary passage had not closed and the infection of the navel set up inflammation and bleeding which stained the urine. In every case of leakage of urine from the navel (persistent urachus) a catheter should be passed to see that the natural passage for urine (urethra) is open and, that decided in the affirmative, measures should be taken to close the orifice of the navel by means of a small rubber band, after which the corrosive sublimate solution should be often applied to prevent infection. If readers of the P. F. will adopt this treatment for every young animal born upon their farms they will be surprised to note the wonderful effect it has in preventing a number of "infantile" troubles not usually attributed to their proper cause, viz., infection of the navel cord at birth.

White Spots.—1. Please give cause of young chestnut sorrel growing white spots all over, but more on and about the mouth. Some not larger than shot, and others as large as a pea. She had a cough which we thought distemper, in the spring, and these spots seemed to come right after it, and with her new hair. 2. She is fond of pea hay and eats it right along. Could that have caused it? 3. Also please give advice about shoats. Have lost several. Seem to get sick, refuse to eat and seem swollen or right full and are constipated—is nothing like cholera. We feed mill feed in separated milk and slops from cook room, and corn twice a day, and now have turned them on fine clover. 4. Also give remedy for gapes in chickens. T. C. SLAUGHTER.

Lottsburg, Va.

1. You do not state whether hair comes off white spots or not. If the hair merely turns white over the body that is not a disease, but probably the character of some ancestor cropping out. If the hair comes off there is a skin disease present and the character of food might have something to do with it. In this case we would give half an ounce of Fowler's solution of arsenic twice a day and avoid all sudden changes of food. A physic ball is a good introduction to the other treatment, and is made by pulverizing finely an ounce of Barbadoes aloes and mixing it with two drachms of ground ginger root and one drachm of fluid extract of belladonna leaves into a cylindrical mass, which should be wrapped in tissue paper and thrust well back over root of tongue, when it will be swallowed. A physic ball should not be given in very hot weather and only after animal has been prepared by eating three bran mashes but no hay or grain. Wash the skin, if itchy, with a lotion of one drachm each of sulphuric acid and carbolic acid in a pint of clean soft water. Give plenty of work or exercise after physic ceases to operate. 2. Provided pea hay is in good condition and free from mould or dust it is suitable food if given in moderation. It would, in our opinion, prove injurious if fed in large quantities and might have something to do with breaking out on skin. 3. Stop feeding slop from hotel or restaurant unless you can make sure that it does not contain soap or soap powders. It is common for such slop to cause death of hogs from enteritis, which appears to be the disease present in your herd. Open the bowels of each hog with a four ounce dose of epsom salts in water and repeat the dose in two days if necessary. In feeding factory milk it is best to feed a little often rather than all the hogs can drink at a meal. Flaxseed meal should be used with it when hogs are not getting green food. 4. Gapes is due to a small, twisted, branch worm (syngamus trachealis) in the windpipe, and occurs on farms long used for chicken raising. It is best to abandon old, infected ground or seed down to grass after plowing. Buildings should be disinfected and whitewashed and all yards, etc., drenched with a strong solution of sulphate of copper or crude carbolic acid. Chickens dying of the disease should be destroyed by fire. Treatment consists in stripping a feather all but the tip, dipping this into a mixture of equal parts turpentine and raw linseed oil, inserting it in the mouth, then passing it through the hole in the centre of the tongue, down to the bottom of trachea (windpipe), twisting it around and withdrawing it with a few worms adhering to it. This may be repeated several times a week. Spirits of camphor may be rubbed upon the neck with advantage and fumigating with tincture of iodine is also effective. It is best, where but few chickens are affected, to destroy them at once by fire.

Umbilical Hernia.—I have a colt ruptured in the navel. I wish you would tell me what I could do for it. J. E. MYEERS.

Sligo, Pa.

Young colts very frequently grow out of hernia (rupture) of the navel, but if you have noticed that in this case the rupture is increasing in size, rather than reducing, then an operation will be required and you can perform it yourself unless a veterinarian can be engaged. While colt is in standing position clip hair off with scissors from four small spots, the centre of which is the rupture. The spots should be at the four corners of an imaginary X, the centre of which is the rupture. Having starved the colt for 12 hours, cast him in the usual way, turn him onto his back after securing his legs, press the rupture back into place by manipulating with the fingers. This done, cleanse the skin with soap, warm water and an antiseptic. Now pull up the sac of loose skin, enter a sharp, clean, steel skewer at one of the clipped spots, thrust it through and bring it out diagonally at one of the other spots. Now introduce another skewer in like manner, so that both form the X with centre of sac in centre of this figure. This done, wind a clean cord tightly around the skewers next to the skin, so as to choke off circulation of blood, apply Canada balsam over all, release the colt and the operation is complete. The enclosed skin and skewers will slough off in about twenty days. Colt simply requires good care after the operation. The skewers should be new, and may be bought from a butcher. Boil them in antiseptic solution before use. The object of marking the spots with scissors before throwing colt is that when down location of skin is liable to change, so that after letting colt up skewers might be found in wrong place were this precaution not taken.

Splints.—Have a 2-year-old colt that has a bunch on inside of leg, front one, between knee and ankle, and also one starting on other leg. Does not go lame, but we judge it to be a splint and might bother him later on. Feed him one quart of oats to a meal, and poor hay. JOS. A. STRAUB.

St. Marys, Pa.

The enlargements are splints and may never cause lameness if they are low down and do not involve the knee joint. Colt should not be worked or driven early, as it is concussion upon hard roads that usually gives rise to splint lameness. If parts are at any time hot and sore put on a pack of cotton batting secured in place by means of bandage, and keep it wet with cold water. When inflammation subsides clip hair from part and blister with cerate of cantharides, 1 ounce; biniodide of mercury, 1 drachm; mix. Rub it in for 15 minutes; wash off in 48 hours, then apply lard daily. Tie colt so he cannot lie down or bite part while blister is acting. If there is not heat or soreness at present clip hair from enlargements and rub in a little iodine ointment two or three times a week. When he is first driven put boots on him if he tends to strike, for direct concussion is likely to form large, diffuse splints.

Alleged Swine Plague.—I have some pigs that are sick; two have died. They cough some; have good appetite. The last one that died went about for twelve hours; would not lie down, and breathed in short, quick gasps, with its mouth open; when it finally laid down it died in less than three minutes. I opened it at once and found right lung like a piece of blood-soaked meat, and it crumbled to pieces when pressed upon by the fingers; the other lung was not so bad, but had spots of the disease over it. I think its mouth and throat were sore also. This disease is what is called swine plague here, and it attacks and kills many hogs irrespective of treatment or condition generally, and it is certainly contagious. W. A. WISE.

Shongaloo, La.

While it is, of course, possible that this is true swine plague, we strongly suspect that it is some other trouble and not contagious. It is, however, always wise to treat such diseases as if sure that they are contagious, hence infected pens, yards, etc., should be abandoned or thoroughly disinfected several times before reoccupancy. Well should be separated from sick and placed in new, disinfected and whitewashed pens. The symptoms and post mortem lesions described are very characteristic of mechanical bronchitis, caused by dusty beds, yards, etc., a cause seldom suspected by owners, but which should be removed at once if present. A similar disease is also produced by a thread-like worm known as strongylus paradoxus, which lives in the windpipe and lungs, giving rise to cough, and verminous bronchitis and pneumonia, a disease also common in calves from strongylus micrurus, and in lambs from strongylus filaria and strongylus rufescens. You do not state age of pigs, which is unfortunate, as it should be remembered that in very young pigs thumps due to indigestion and lack of exercise presents symptoms similar to those described. On general principles we would advise a general change of feeding and management, free use of disinfectants and whitewash and the keeping of swine isolated from all places known to have been infected. Stock boars and pregnant and nursing sows should be fed nitrogenous food rather than corn and should at all times have ample exercise, with some succulent food, such as roots or silage in winter, and green rye, rape, clover or grass in spring and summer. Growing pigs from weaning time until old enough to fatten off should have very little, if any, corn and an abundance of nitrogenous food, such as middlings, shorts, bran, oil meal, dried blood meal or tankage and milk and, like older hogs, plenty of exercise and succulent food to regulate bowels. Hog diseases become scarce under such management, provided drinking water is pure, wallows are not used and disease is not introduced in purchased animals. Write again after reading this reply.

Wind Sucking. — I have a horse that has always been bad to chew the bit and want to put his head down while driving. Something like a week ago I noticed him drawing up his chin and bowing up his neck, and after doing this two or three times will put his head down and there is a grunting sound in the windpipe. J. CAMP.

Shelby, N. C.

The horse is practicing the bad habit of wind sucking, the cause of which is unknown. It is, however, usually the cause of indigestion, and may possibly proceed from that trouble, but is ordinarily learned when the horse is teething, which makes him "crib" or bite upon the manger. It would be well to drive him with a tight overhead check to keep him from getting his head down to practice the habit, which may also be greatly lessened by buckling a strap tightly around neck just back of the ears. We would suggest that you also have his mouth examined by a veterinary dentist, who may find removal of milk tooth crowns of corner incisor teeth necessary, as these teeth are sometimes found obstructing the cutting of the permanent incisors. Milk tooth crowns should also be looked for on the large back teeth (molars). It would further be advisable during the summer months at least, to feed oats in preference to corn. Hay would also be better for him than corn fodder in summer.

Thumps.—I have some fall shoats that are bothered with a cough; two of them have the thumps; one died with it.

Loredo, Mo. JOHN J. GUGERTY.

Cough in pigs is very common, caused by dust, as has often been stated in this department of the P. F. Worms, too, are a common cause. Thumps is usually brought on by over feeding and lack of exercise. In your case it is probable that the bulky boiled potatoes have had a great deal to do with the trouble. Boiled potatoes, combined with barley meal or some other nitrogenous food are excellent for finishing hogs, but are altogether unsuitable for the feeding of growing pigs. Corn, too, should be omitted from the early feeding of young pigs. We would advise you in future to feed milk, middlings, bran and flaxseed meal to young pigs having a free range on clover, grass or rape. Dried blood meal should be freely used, as it is rich in digestible protein, going to form muscle and furnish bone and vitality. You will find treatment for thumps in back numbers of the P. F., but prevention is much more important than cure. A change of blood in the breeding stock is usually indicated when diseases such as thumps are common in a herd.

Bloody Milk.—Have a cow 4 years old that gives bloody milk. Has good pasture and a little hay at night. CHAS. SHERRILL.

Minooka, Ill.

You do not state how many teats are affected. If it is in but one teat then the cow has had an attack of garget and an abscess has formed, as you say that pus comes out. If the conditions involves all four quarters it is best to dry such cows and fatten for slaughter. In some instances, as we have often explained in this department of the P. F., the trouble is due to tuberculosis, so that it is always well to test affected cows with tuberculin. If but one teat is affected and the condition does not come and go, as seen in tuberculosis of the udder, treat by giving her a pound dose of epsom salts in two quarts of warm water and follow with an ounce dose of hyposulphite of soda three times daily in water or feed. Keep her off grass and feed such food as will not tend to produce a large flow of milk. Foment the udder with hot water two or three times daily and then rub well with following lotion: Fluid extracts of poke root and belladonna leaves, of each two ounces; soap liniment and extract of witch hazel, of each four ounces; shake well when using. If there is difficulty in removing the milk from affected quarter, use a milking tube, and if trouble does not speedily improve, very carefully inject into quarter through teat twice daily a little of a milk-warm solution of ten grains of bicarbonate of soda in a cupful of water. This breaks up the curd and makes milking more easy, but great care must be taken to have the milking tube, syringe, etc., perfectly sweet and clean, else the injections will aggravate the trouble.

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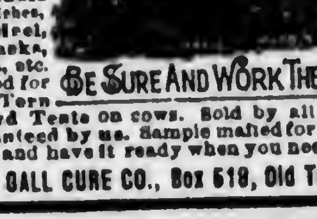

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Indigestion, etc.—1. I have a mare that suffers with water cramp; sometimes she will go twelve months without being sick. Her water seems to be thick and yellow; swells a great deal and has a great deal of gas on her stomach. Please tell me what will cure her. 2. I have a colt three years old, that I put to work two weeks ago. She has a soft or fluffy place on her right shoulder. It began to gall some and I used gall cure and the hair came off, and thought it was all right; it has no holes in it, just seems to be soft and fluffy; will it hurt to work her? 3. What is good for sheep that have cough or distemper, and what will keep the gad fly from sheep? A. P. WILKERSON.

Maple Grove, Va.

1. There is no such disease as "water cramp," but the mare is very evidently suffering from chronic indigestion, which explains condition of urine and also of gas in bowels. A complete change of food will have to be given, and if you have been feeding corn in hot weather that is the most probable cause. Such conditions are also commonly brought on by allowing the drinking water after a meal, whereas it should always be given before feeding. If the water is hard from presence of lime, change to pure soft water if possible. Also do not allow hay during the day when mare is working. Feed oats, whole, and a bran mash two or three times a week if there is a tendency to costiveness of the bowels. Let her have a roomy box stall in stable and see that she has exercise every day when there is no work to be done. Have the stable clean and well ventilated. Each time she happens to have an attack of trouble referred to, cut down grain ration, increase exercise and give her a pint of raw linseed oil in which shake up two ounces of turpentine. If there is pain add an ounce of fluid extract of cannabis indica. 2. The baggy swelling is due to ill-fitting collar, and may have to be dissected out later. Retire filly from work—there is no profit in working 3-year-old colts in the field—and rub the part twice daily with a solution of two ounces of tincture of iodine in four ounces of extract of witch hazel. Feed filly on oats and bran while at grass to get the most growth possible. If you try to have her work with shoulder in condition referred to you will surely make the tumor a permanent blemish. 3. The cough and discharge from nostrils is not distemper, but more likely due to the presence of grubs of the gad fly in nostrils and sinuses of the head. These grubs will come away shortly, but it would be well to fumigate with burning sulphur in a closed building, the windows and doors of which may be thrown open at once when there is danger of suffocation. Fumes from tincture of iodine poured upon a hot brick in sack into which heads of sheep are to be inserted over and over again on several days is also effective. For cough use glycoheroin in 2-drachm doses two or three times daily. To prevent gad fly attacks smear nose of sheep with a mixture of one part oil of tar and 3 parts pine tar during fly time.

Milk Fever.—I had a very fine Holstein cow die last week. Had what I suppose is called parturient apoplexy. She had a calf about three o'clock P. M.; next morning seemed a little unsteady in hind parts; by 12 o'clock could hardly walk; seemed to be almost paralyzed, especially in tongue and throat; by night had no use of tongue. Examined womb at 12, after calf was dropped in the evening, and found she had a lot of what we call moon calves—hard, dark, cancery looking tumors, some almost as large as a person's fist. Her calf bag, or afterbirth, as we call it, did not come; it was fastened to the calf bed by these tumors, but did not get this out before she died, but got a great deal of clotted blood and three tumors. Lived two days. She soon became unconscious the day after calf was dropped, and did not notice calf. She was in fine fix and a fine milker; 9 years old. Has been fed principally upon cut shucks and straw of good quality, with one gallon of bran, shorts and corn meal, equal parts, with some pea vine hay during the winter. This is the fourth cow I have lost similar to this. What ought I to do for cows thus affected? What is the cause and what treatment will prevent it? All the cows I have lost similar to this were extra good milkers. 2. I have a very fine mare that has been in the habit of balking a little. When she balks, she does not pull back, but if the other horse keeps going she will take hold again. Can you give me a remedy to break her? 3. What is the best thing to feed a mare just before she drops a colt, and after? Lost one this spring with scours. I feed horses a liberal feed of corn, bran and oats at morning, and noon occasionally oats and bran, mixed; at night cut straw and shucks with a little over one gallon of corn meal, bran and shorts, equal parts; fodder, clover and pea vine hay for roughage. Have extra good success in keeping nice fat horses and cows. J. M. RAY.

Liberty, N. C.

The troubles alluded to in this letter are of such general interest that we shall give our reply more space than usual, that the answer may be kept for future reference. In the first place, we wish to say that the cow in question was taken down with milk fever, also called parturient apoplexy or parturient paresis. She might quite possibly have been cured of this disease, but you killed her by treatment given. There can be no question as to this, for you pulled off what you term "cancery tumors" from the womb. These so-called tumors are natural and to be found on the womb of every cow. They are cotyledons, some fifty to one hundred in number, and to them the placental membrane or calf bed adheres and derives the nutrients going to feed the calf in the womb. They are very vascular (full of blood) and tearing them off, as was here done, inevitably leads to excessive bleeding, and surely to infection and death from septic metritis (inflammation of the womb from infection). What we have said demonstrates the great necessity of becoming acquainted with natural conditions of the womb and other organs of the animals we handle on the farm, for treatment well meant but given in ignorance of the simplest facts of anatomy are daily fatal to animals treated. In future when a cow does not clean (expel her afterbirth) proceed by inserting the oiled and disinfected arm with hand very carefully, and gently separate the afterbirth from each cotyledon in turn. This is done by squeezing the cotyledons and inserting finger under the membrane and so separating it from its attachments to the cotyledon. It requires much time and patience to do this properly, and when the work has been accomplished a large lump of fresh, unsalted lard should be introduced into the right and left horns of the womb and left there to melt, gather up and bring away portions of the afterbirth and other debris remaining. The lard also serves to soothe the irritated, inflamed lining of the womb and does not cause straining as does injecting antiseptic solutions, which should only be used while the operation is being performed and afterwards to cleanse external parts as discharge comes away daily. The cause of milk fever, so-called, is, first of all, breed, deep milkers of dairy strain being most apt to suffer therefrom. The disease attacks almost invariably adult cows having had from three to four calves; it is not a disease of heifers. Even such cows will not be attacked if properly fed and managed. It is pampering upon rich foods during pregnancy, and lack of exercise, that brings on the disease. It is to be prevented by feeding no grain or meals to pregnant cows during the last six weeks of pregnancy, and substituting bran mashes and flaxseed meal to keep the bowels freely open at all times, while allowing plenty of exercise daily to keep muscular system in healthy condition. This applies to springtime as well as winter. Cows susceptible to the disease by reason of breed and deep milking qualifications, are to be kept in yards and there fed dry hay and the mashes already advised. Towards calving the flaxseed meal should be increased in amount as tendency to constipation increases. Epsom salts may be added to the soft food or drinking water where the bowels still remain costive despite use of soft food. If very fat, deep milking cows, as an extra precaution a pound dose of epsom salts may be given in two quarts of warm water just when calving commences. We have succeeded in perfectly preventing milk fever in susceptible cows by giving half a drachm of iodide of potash twice daily for a week prior to calving, and two drachms at calving time in a little water. The trouble about this treatment, is, however, that it tends to decrease flow of milk after calving, and in some instances endangers the life of the calf. We incline to believe that two drachms of iodide of potash given at and just after calving would prove equally effective, but have not as yet had an opportunity to give this plan of treatment a trial. Should a cow go down with the disease, treatment should be given as follows: Prop her up on her chest and do not allow her to lie on side. Give no large drenches of medicine by the mouth, for patient cannot swallow, and medicine consequently runs down windpipe into lungs, causing death from choke or mechanical pneumonia. Wash udder with soap and warm water and mix a tablespoonful of antiseptic in water used for this purpose; then place thoroughly cleansed and clean-milked udder upon a clean rubber sheet. Infuse into each teat in turn half a pint of a solution of two drachms of iodide of potash in one quart of freshly boiled and filtered water at milk-warm temperature. Accomplish this by means of a large milking tube inserted in one end of a six-foot length of small rubber hose, in other end of which is fixed a glass funnel. Insert the tube in teat then pour a quarter of the solution slowly into glass funnel, from whence it will gravitate into teat and quarter of udder. Infuse a like portion of the solution into each teat in turn and when all is injected rub udder well once an hour until liquid has been absorbed. Give one drachm of fluid extract of nux vomica in a tablespoonful of water three times daily by the mouth. Inject soapy warm water into rectum every four hours by means of two and one-half feet of 1-inch rubber hose and funnel attached. Draw off urine with catheter at least once daily. Repeat infusion of iodide solution same as before, in twelve hours, if cow is not up or very much brighter. When she is able to rise give her stimulants, as whiskey (four ounces), or aromatic spirits of ammonia (one ounce), three times daily in pint of thin oat meal gruel, and continue nux vomica if she is quite weak. Foment udder well with hot water three times daily should it happen to be swollen or hard. Even better results have been attained by infusing from four to five litres of oxygen gas into udder in this disease, but thus far no practical apparatus has been devised by which this treatment may be given on the average farm. 2. There is little likelihood of curing the mare of her balkiness. It would, however, be well to cut her feed in half and increase her work materially. When such mares are worked every day, rain or shine, and put upon a spare ration they are much less likely to balk. 3. The trouble you have had from scours in foals and from milk fever in cows is explained in the statement that you "have extra good success in keeping nice fat horses and cows." You have fed too well and doubtless given too little exercise. It is muscle and vim and vigor that we require in calving cows and foaling mares rather than fat. Work the mares right up to foaling time, gently and so that they will not be strained or jerked. Keep bowels open with succulent food, such as roots, silage or soft mashes. Stop use of ground food entirely. Substitute sound, old, whole oats and hay. Give drinking water before feeding. Feed soft bran mash two or three times a week. Scouring in foals and calves is often due to feeding corn or corn meal during pregnancy. See that foal or calf is born in clean, disinfected, whitewashed box stall and always wet navel of new born animal at once with a solution of two drachms of corrosive sublimate and half drachm of hydrochloric acid in half pint of boiling water used cold, and repeat this treatment once or twice daily until the cord dries up, drops off and no raw spot remains. This also answers W. A. Hethcox, Coddle, N. C.

Spavin.—Our horse was lamed by straining about March 15th; right hind knee. There was a soft spot which was very painful in the joint. At present time goes very lame after a long drive or hard day's work, going off on her toe, and in a little while all right. She is probably 25 years old; is she too old to be helped? MRS. C. W. WEST.

Danville, Pa.

Mare has probably had a bone spavin for years, but this has not caused lameness, the small bones of hock joint having been cemented together by the bony deposit. When she was strained the union among the bones was destroyed and spavin lameness again established. As she is so old, there is little use in having her treated, but if you care to have it done she should have hock joint feather and puncture fired and blistered by a veterinarian, after which she will have to rest standing up in stall for at least six weeks. This operation causes but little pain and a horse soon learns to sleep in the standing position. The treatment advised is most likely to cure the lameness, but if you cannot have it done then clip hair from joint, tie her up short in stall so she cannot lie down or bite part and blister twice a month with cerate of cantharides, two ounces; biniodide of mercury, two drachms; mix. Rub it in for 15 minutes and wash off in two days after which apply lard daily. This treatment will do no good unless animal is allowed to rest for at least six weeks.

Bone Spavin.—I have a mare 12 years old which has a large spavin on each hind leg. They are bone spavins; at times are very painful; can hardly walk.

Minkler, Ia. J. G. MCCRAE.

As stated in another answer in this department, the only hope of relieving the lameness would be to have the spavins fired and blistered and then allow six weeks rest tied up in narrow stall. As both hocks are affected chances of recovery are very slim and should you have her fired it would be cruel to have more than one joint fired at a time, which would complicate matters, making it necessary to allow at least a week to elapse between operations in which case she would have to be tied up for two months. It may be mentioned incidentally that it is a great mistake to use spavined mares or stallions for breeding purposes.

Cough.—Garget. — I have several hogs that cough considerably. What is the cause and the remedy? I bought a cow that was fresh about six weeks ago, and the calf has run with the cow and she has not been milked; the calf has only milked three teats; the other has caked and has affected that part of the udder. Will it affect the milk in the other part of udder so as not to be good to use for butter or other domestic uses?

Warsaw, Ind. J. A. R.

Cough in hogs, as often stated in this department of the P. F., is commonly due to dust, worms or indigestion, but may also be due to cold, inflammation of throat, bronchial tubes or lungs. This being the case it is impossible for us to point out the true cause in each case reported, yet treatment should be given according to the cause whichever it be of those mentioned. Would be glad to prescribe if you gave full particulars. When one quarter of the udder is thus affected there is likelihood of other quarters becoming similarly affected, but until that happens milk of sound teats is not likely to be affected. As often stated here, garget is sometimes due to tuberculosis, so that it is well to test affected cows with tuberculin. Affected quarter should be well rubbed twice daily with equal parts iodine ointment and lanolin. Also strip out the gargety milk or pus. Give her half ounce hyposulphite of soda twice daily.

Booklet on Separators.—The DeLaval Separator Co. has just published a booklet, "Be Your Own Judge; How to Apply Business Principles to the Testing and Selection of a Separator." Farmers and dairymen will find many interesting and instructive pointers in this booklet, which they ought to read. It can be had for the asking, by writing to their main office in New York, or any of their branch offices. Mention the P. F. when you send for it.

Good Hog Markers.

Bliss, Okla., Jan. 22, 1903.

Farmer Brighton, Fairfield, Ia.

Dear Sir.—Enclosed please find $1.50 for which please send me one of your hog markers. I had one, but it has been misplaced and I simply can't do without it when it comes to marking shoats and would have one if I had to pay $10.00 for it. I think you made a great invention when you got up that marker. Yours truly, J. C. Miller, Supt.

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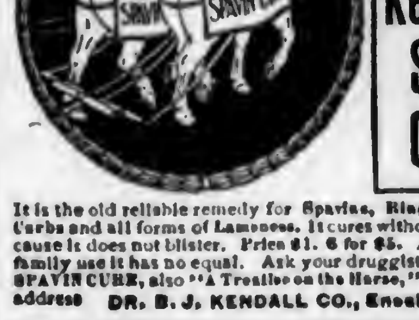

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Don't lie awake nights worrying for fear your wife or children will get caught in the gears of your cream separator, but be on the safe side,
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Mrs. Gustave Melcher, of Oak Ridge, had her arm caught in the gearing of a cream separator and torn off last Sunday morning. Dr. Bear was called and amputated the injured member below the elbow.
REMEMBER with the U. S. Separator such accidents are impossible, which is only one of the many advantages derived from having an Improved U. S. Cream Separator.
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For Western Customers, we transfer our separators from Chicago, La Crosse, Minneapolis, Sioux City, and Omaha, Address all letters to Bellows Falls, Vt.
309 Vermont Farm Machine Co., Bellows Falls, Vt.

THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

Talks on Timely Topics.

Money in the Garden.—It is profit—money—that people are after. We may find a good deal of pleasure, of instruction, of beneficial effects upon health and the moral tone of the family, etc., in our home gardening operations, yet if we were unable to see the more immediate results in substantial things, the fruits and vegetables which the family needs and for which we otherwise would have to expend money, in short, if it were not made plain that the garden either saves us expenditures, or still better brings in some ready cash, very few practical farmers would take much pains with the garden, or could be induced to have a garden at all. The money consideration outweighs all others. As I have tried to show in my garden books, there are a hundred chances for making a few dollars even in the most humble home garden. There are always things of which we have a surplus which neighbors or townspeople want and are willing to pay for. There is the rhubarb patch. It is only a little corner near the barn where good manure is always handy and liable to be used freely. But what a lot of stuff we get from it! And the good woman gladly pockets the frequent contributions of neighbors who come after a supply of rhubarb for pies, sauce, or canning. The stores also require a regular supply. Occasionally somebody comes after half a dozen or a dozen plants. Altogether the patch brings in quite a little money for its size. This spring I placed a number of headless and bottomless barrels over some of my rhubarb hills. The stalks have to grow a good length in order to reach the light of day. Thus I got leaf stalks three feet in length and as brittle as glass. It does not seem to be necessary to fill the barrel full or partly full of some old compost or other loose material in order to blanch the stalks. They do very well even when growing through the empty barrel.

Another crop requiring little space, and very little attention, yet giving a chance for early pocket money is the hardy winter onion. In some places the so-called "Welsh" onion is grown for this purpose. I am trying it this year, but do not know whether it has any material advantages over the Egyptian or Tree onion. The former is grown from seed, the latter from sets. There is always a good demand for these first early green onions, and they pay well.

Other crops needing very little space and which are always in demand at paying rates are the various vegetable plants, especially cabbage, and if you have learned how to raise them successfully, celery, besides some others. I usually sow a little row of late cabbages once a week right along from middle of May to middle of June, and thus make sure of having some good plants right through the cabbage planting season. If we sell them at 15 or 20 cents a hundred, or even a dollar a thousand, we are making the crop pay pretty well.

In succeeding issues of the P. F. we will try to discuss other crops that promise satisfactory chances for satisfactory money returns. Readers of the P. F. are invited to give us their personal experiences on these lines. For any communication that is accepted for publication, that tells us of crops that have paid, with full particulars as to amounts, I offer as a premium, a copy of the "Garden Book," or "Practical Farm Chemistry," at the writer's choice.

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Current Comments.

Lima Beans.—Mrs. F. C. H., of Elmhurst, Pa., writes: "I have failed with lima beans. They come up nicely, and then wither and die. Please tell me how to care for them as they are my favorite vegetable." When we have a warm, rich soil, and a reasonably warm summer, we find it no trick to raise abundant crops of lima beans. Indeed they are as easy to raise as common white beans, or any other beans. Frequently, owing to a poor sample of beans, or possibly to unfavorable weather conditions, a portion of the plants when coming up, appear to have defective or unhealthy seed leaves, and will "wither and die." I always plant seed enough that it becomes necessary to thin rather than to replant. Lima bean plants while small, are hardy enough to endure even a light frost, and I usually plant them just as soon as the ground has become thoroughly warm, or warm enough to start germination. If you happen to make a failure of one lot, or in one year, try, try again. Be sure the soil is warm and very rich, and contains humus enough to be loose. If you use poles, set the poles first and plant the beans around the pole. I prefer a trellis of wire and string. Lima beans, in short, are the one crop of which I neither expect nor fear to make a failure.

Fighting Melon Lice.—I have had a number of inquiries about melon lice, and how to fight them. The following comes from Am. Agriculturist: "The time of the appearance of these lice upon melons varies with the locality and season. As a rule, when the melon vines have two or more leaves one can begin to look for the pest. By a little careful observation the winged lice will be seen on the under side of the leaves. A few days later these will be surrounded by a colony of young wingless lice. The female may fly to other plants near by and start a new colony. After midsummer winged forms are found everywhere throughout the field and as soon as the plants become dry they fly to other fields, where the plants are in better condition. This accounts for the sudden swoop upon certain patches. As the pest has so many favorable food plants on which to deposit its eggs for wintering, clean cultivation must be urged. Fields should be kept clean from weeds. If the ground for any reason should be kept covered, a grain or grass crop could be used. Too much attention cannot be paid to fence corners and the roadway. A space a few feet wide between the roadbed and the fence, grown up with weeds, would winter enough lice to destroy all the melons in a 10-acre field adjoining. The lice do not make long flights, and the more completely the patch is isolated from weedy ground or fields, the better. An early, sunny and rather dry spring is favorable to them. If it is cold and rather wet and blustering, the chances are that they will not be so destructive. As soon as a colony is found it should be destroyed by either plucking the leaf and destroying it, or spraying with kerosene emulsion diluted with water from 12 to 15 times. For this purpose a good spray pump with a nozzle for under-spraying should be used. Care should be taken that every colony is thoroughly drenched with the material. Bisulphide of carbon has also been used as a successful remedy. It is a foul-smelling liquid, as clear as water, very volatile, the fumes being heavier than air. It should be placed in a shallow dish and allowed to remain about an hour. The vine must first be covered with a tub or other tight vessel. Use about one drachm or a teaspoonful of the bisulphide for every cubic foot of air-space enclosed. By attention and prompt action on the part of the growers, serious injury can be averted any ordinary season."

Carp for Pond.—S. E. Russell, Pentwater, Mich., writes: "Mr. Chas. Fitch, of Ludington, 12 miles north of here, wants to know where to get German carp for private pond. Our Pentwater Lake has lots of such fish in the shallows at the head of the lake; and Pere Marquette Lake also has as many. I have German carp in private pond. Got my fish of a fisherman who caught them in his nets in Lake Michigan and kept them alive by throwing water on them as they lay in the bottom of his boat while coming in from Lake Michigan."

Nitrate of Soda.—Tomato Planting.—F. H. Lawrence, South Hadley, Mass., writes: "Is there a waste to nitrate of soda if sowed on land, grass or cultivated crops without having rain for a week or more? The nitrate has disappeared. Did it pass into the air? Which is the best way to set tomatoes, in a furrow or on a ridge?" There is not the least danger of nitrate of soda going off into the air. Ammonia in which nitrogen is combined with hydrogen, is volatile, and will get lost in this way. The nitrate dissolves in very little water, the dews being sufficient to dissolve it when applied to the surface of the ground, and to carry it down into the soil moisture ready for the use of plants. The only danger of loss of the nitrogen in nitrate of soda is through the means of such an excess of water that the dissolved nitrate is carried away in the surplus water through the drains. I plant my tomatoes on the level, and afterwards, in cultivating and hoeing, throw the soil up to the plants, finally making a mound around each plant. This gives a good support to the vine.

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Money Crops of the Garden.

Sweet Corn.—There are yet a good many farmers in the United States who know nothing about the real enjoyable goodness of good sweet corn. They use the common field corn when still in the milk stage, and imagine that it is as good green corn as can be had. But good sweet corn is appreciated by the general consumer to such an extent that it is usually a very salable article, and at prices which leave to the grower a far greater profit than the common corn crop does. In fact, a patch of sweet corn in the garden, when there is a surplus for sale, usually pays pretty well. Mr Morse, in Rural New Yorker, says: "Of course we are not all favorably situated to make the best out of a crop of sweet corn, but for me it has been one of the best money crops. I have never sold an ear of corn on the market, but always to the private trade, and picked customers at that. Sweet corn to be at its best should never be picked and held over night, but ought to be delivered to customers as soon as taken off the stalk. Consumers soon learn to discriminate between corn or peas thus handled, and that picked in the afternoon, then carted to market next day and from there to the commission houses, and thence to the customers at any time before the husks begin to rattle. By the former way I have often sold side and side with the hawkers at double the prices they were calling. Many growers are too far distant from their customers to make this method practical, but when such is the case then the best is all any of us can do. My experience has been that most profit is in the early crop, as it always brings a better price, and a second crop of some other kind can easily be grown on the same ground. This calls for heavy manuring, but nothing is lost by this, as the second crop will show the results even more than the corn." I find that I can plant sweet corn, especially the earlier varieties, much closer together than would be safe for common field corn. The first early varieties give rather small ears, but when planted very close, say single stalks six inches apart or two stalks a foot apart, on rich soil, they will yield a large number of ears ready in July or August, and will sell well as the larger ears are not yet in market. Celery, or kale, or turnips, or some other later crop may be planted to follow the early sweet corn.

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Points and Pickings.

The Outlook for the peppermint industry seems to be brightening.

First Early or Bunch Onions and early peas, then fall or winter celery on same spot.

Late Spring Frosts seem to have done damage to strawberries, and other early fruits, and to some early vegetables, in many places throughout the country.

Grading Strawberries may often be practiced with profit. The fine berries please the rich. The culls, at small price, may come acceptable to people who cannot afford to buy the others at regular prices.

It is Easily Possible to injure plant growth by overdoses of potash, especially in muriate form, more easily even than by overdoses of phosphoric acid. There is a limit not only to the profitable, but also to the safe use of chemicals rich in potash.

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A Fine Kidney Remedy.

Mr. A. S. Hitchcock, East Hampton, Conn., (The Clothier) says if any sufferer from Kidney and Bladder Disease will write him he will direct them to the perfect home cure he used. He makes no charge whatever for the favor.

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Stockmen's Supplies.—We recommend our readers to procure without delay the new illustrated catalogue of F. S. Burch & Co. Their popular remedies are as widely known as they are appreciated. A new feature of this house this year is their list of premiums to their customers, even so small an order as $5 carrying some free gift, while on larger orders shearing machines, dipping tanks, and other useful and desirable articles may be obtained absolutely free or at greatly reduced prices according to the value of the order. This spirit of dividing profits with patrons is at once generous and wise. It will be much appreciated by present customers of this house, and we predict will bring them a large additional patronage. Write F. S. Burch & Co., 144 Illinois St., Chicago, and mention the P. F.

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JAMES GOOD.
939-41 N. Front St., Philadelphia, Pa.

Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Raising Mulberries.

At the present time there is much interest evinced in the cultivation of the mulberry for silk worm culture. It is understood that the U. S. Department of Agriculture is interested in the movement inasmuch that it is giving what information it can to those desiring it, and is putting inquirers in the way of getting their wants supplied in the obtaining of seeds and seedlings. Several attempts to put this industry on a paying basis have been made within the writer's recollection, and, with regret it is to be said that every attempt has failed. Just why is not known. The food for the worms consists of the leaves of the common white mulberry, Moms Alba, and its varieties. The one called Russian mulberry is a variety of the Alba, and no doubt is as good for the purpose as the Alba itself.

This, and all mulberries are readily raised from seeds. The fruit ripens in June, and should be secured and the seeds washed free of pulp. Then place them in some cool closet until spring, when they should be sown just as soon as the ground is in good condition. In favorable weather, with the ground in good order as regards moisture, the seedlings will appear in two or three weeks. The nurseryman's plan of sowing such seeds in beds, transplanting the seedlings when two years old, is the best way of proceeding. As the leaves for the food of the worms have to come from the trees, and the stripping of many leaves is an injury to trees, it is better to have two sets of trees, the leaves from them to be taken in alternate years. If trees are stripped to the extent of only a fourth of their foliage, it weakens them, hence the importance of resting some of them every other year.

Fast Growing Hardy Vines.

Those who possess porches, arbors and like structures, are usually at a loss to know what vines to plant to get shade quickly. It very often happens that the means to partake of some comfort and pleasure do not come to us until late in life, and so what is wanted is wanted quickly and shade comes under the head of comfort and pleasure. A good many years of experience leads me to say that in the way of general usefulness but few vines equal honeysuckles. They more nearly approach perfection in the way of vines than any other one, and especially is this true of the Japanese one called Halleana. It grows faster than any other one, has beautiful foliage, and bears its creamy white flowers in great profusion. For rapid growth there is nothing like it; a young plant a foot high, in good health, would be six feet or more in length by fall. It grows dense from the ground. In the course of time, if it becomes too tall or had not enough young shoots at the base, it could be cut down almost to the ground, when it would start up again luxuriantly. Another quick grower is the Akebia Quinata; and it is an extremely pretty vine. The leaves are on long stems, and are five parted. Though growing as rapidly as the honeysuckle, it does not make as much shade the first year, because of the divisions of its leaves. But it is a very fast grower and a most satisfactory vine. In early spring it bears bunches of plum colored flowers, not over conspicuous, but very sweet scented. Next to the two already mentioned, the Clematis Paniculata deserves a place. It is a fast grower, has nice healthy leaves, and bears a profusion of feathery white flowers.

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E. C. BROWN & CO., Rochester, N. Y.

Horticultural Queries.

San Jose Scale.—Enclosed please find a twig from a limb of one of my plum trees. You will see that it is infected with some insect or parasite. Is it San Jose scale or what? We have sprayed with Bordeaux mixture a number of times through the spring. It is the only one infected and seems to be slightly different kind from others which are Burbank and Abundance. WM. LEWIS.
Homewood, S. C.

The twig came to hand, and it presents a bad case of San Jose scale. The best plan of all may be to cut the tree down and burn it, to prevent its spreading, though if you think it worth it you may be able to clean the tree of it. But you have not understood what to use. Bordeaux mixture is for fungi, leaf blights and such diseases. It is of no use for insects. You must use kerosene emulsion or some of the greasy compounds to kill the scales. Whitewash will kill them, or any substance that will cover their coats.

Fungus on Cherry Trees. — I have trouble with my cherry trees. Sometimes I notice a dead limb, and at other times a kind of gum percolating from a little crack or puncture in the bark, sometimes within 15 or 20 inches of the ground and again 8 or 9 feet above. I have whittled away the dead bark time and again and have not been able to find the little pest. My remedy has been kerosene, but my neighbors tell me I am liable to kill the tree with the oil.
Happy Camp, Cal. N. D. EVANS.

I do not think the gumming of your cherry trees has anything to do with the dead branches you speak of. Some fungus has killed them, most likely. Cut them off and burn them. Any puncture, however small, will cause gum to issue from cherry trees, and with no particular injury to the tree. You say that you failed to find any insect; and it is not probable any are in the tree. The cherry is not subject to borers, excepting that when budded on the Mahaleb, a European stock; this stock is sometimes bored, but not the tree proper. As you speak of dead bark, it may be a fungus attack, and if so a washing with Bordeaux mixture would be desirable; and it would be well to wash in any case.

Orchard Grass.—Enclosed find sample of grass which came up on my place four years ago, called Wonderful hay. It is very early in winter. Grows vigorously in early spring, but dies down in hot weather. Its foliage is dense; it is possessed with great tufts. All kinds of stock eat it greedily. Is there any such grass as Wonderful hay? Please name it and say where seed can be bought.
Scipio, Ark. S. W. MOORE.

Prof. Massey, to whom I submitted your specimen of grass, says it is but the common orchard grass, Dactylis Glomerata. Though new to you, apparently, it is one of the commonest grasses in the North. Wm. Henry Maule, seedsman, Philadelphia, or any of the seedsmen advertising in the P. F., could give you the price of seeds. Ask for orchard grass seed; it is not known by the name of Wonderful grass.

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Horticultural Notes.

Strawberries.—William Belt strawberry is much in favor with growers near Philadelphia. For a late one Gandy still leads. Save for the fact that a change of sorts or of plants at times works to advantage, there is but little gained by a continual change.

Chrysanthemums. — The large flowered chrysanthemums are not hardy enough for the North, but they make such a grand display and are so cheap that it pays to set them out to enjoy their beautiful flowers in October. Plant at any time through the summer from pots.

POULTRY.

This department is under the editorial charge of A. F. Hunter. All letters, inquiries and requests should be addressed to him at the Practical Farmer office, P. O. Box 1317, Philadelphia.

Distance from Market.

A Berks Co., Pa., reader tells us that he keeps fifty or sixty hens, as do all of his farmer neighbors, and that there is no one in his vicinity who makes a specialty of poultry raising, and says: "It would not pay here; we have too far to go to market, about twenty miles; and there is no railroad nearer than twelve miles. Every farmer has some poultry and what they do not use themselves they sell to hucksters." There could hardly be a more mistaken point of view. That argument applies with less force to poultry products than to any other products of the farm; there is no one thing so easy to market, or that has so great value in concentrated form, hence gives especially good returns for the labor of raising, as eggs and poultry. Therefore we say our Berks county friend is wholly mistaken in his point of view, and is standing in his own light. We are familiar with poultry conditions in very many sections of the country and know it to be a fact that farmers who live a considerable distance from a railroad make a better proportionate profit from their poultry than from anything else on the farm. A strong argument in favor of more and better poultry on the farm is that by keeping a goodly stock of poultry you can find a ready market at home for many of the bulky crops grown on the farm, such as wheat, oats, barley and corn for grains, and many vegetables, such as cabbages, sugar or mangel beets, clover hay, etc.; indeed, if we were set down upon a farm twelve miles from a railroad we would take up poultry raising as the easiest and best way of making a living off the farm. Speaking of selling crops to the hens, we know a farmer away up in New Hampshire who says he can sell his wheat to his hens at two dollars a bushel! He always has eggs at Thanksgiving and Christmas time, when his neighbors haven't any, and when eggs pay a creamy profit, and it is chiefly because he takes good care of the hens and sells his good, sound milling wheat to them. We know a farmer in Maine who makes a net profit of two dollars a year on every hen he keeps; he has grown to a capacity of six to seven hundred head and clears twelve to fifteen hundred dollars a year from them. He lives nine miles from the railroad and pays forty-five cents a case (1½ cents a dozen) to the stage driver that takes the cases of eggs to the railroad and fetches the empty case back. Some farmers are just so small minded they wouldn't pay that cent and a half per dozen for getting the eggs to the railroad, but see what this Maine farmer gets in return! The railroad transports the eggs to a large manufacturing city in Central Massachusetts, and a grocer of that city gladly pays him five cents per dozen over and above the regular market price for them, because they are "fresh laid;" five cents less one and a half cents leaves the Maine farmer three and a half cents additional profit above the going market price. Is it any handicap to him to be nine miles from a railroad? It is a cent and a half per dozen handicap, but that is insignificant and don't prevent his making a good, fat living from his farm and having money in the bank, and a mortgage on two farms, whose owners work harder and don't make as much money as he does! A few years ago we were traveling in New York State and came to a farm away back on the hills, between six and seven miles from a railroad and eight miles from a busy little city. The farmer kept some five hundred head of hens, had the best farm buildings anywhere about there, and when we drove up we found him greasing the axles of a smart two-seated surrey and he told our companion that he and his wife were going to drive to the city after dinner to fetch his youngest daughter, who was coming from college on the express train due at 3.20. Could he have sent his daughter to college if he hadn't those five hundred hens? Probably not; but he is certainly making a better living and making it easier than he could make it by any other branch of farming, and as he sells a good many of his crops to his hens, who pay him a good, round price in eggs, he is working his farm to the best possible advantage. Anywhere in the Middle States poultry keeping can be made unusually profitable because the very best markets in the world are right at hand, and those markets are easily reached via the nearest railroad. The consuming population of the Eastern cities is willing to pay good money for choice poultry and "fresh laid" eggs. If our Berks county friend will only produce the goods he will find it easy enough to market them, and at prices that will pay him a fat profit.

Farmers Should keep Better Poultry.

E. L. GILLHAM.

While better poultry on the farm is sometimes touched upon in farm papers, I think it really too bad that more space is not given and the most able writers on poultry cannot be employed to give practical, helpful articles on poultry. The best writers confine their articles to the fancy side of the business in their articles written for poultry journals. While few enough farmers take farm papers fewer yet take poultry papers, hence the best articles on this subject seldom reach the most needy. What is needed is for farm papers to take up this question in earnest, and with able articles of a practical kind reach the farmer and show him that it is greatly to his interest (in dollars and cents), to get better bred poultry and give it better care; he most certainly will give it better care and be more interested in it if he but gets the better poultry.

Few farmers realize that this much neglected branch of farm work yields a product which by our last census report is greater in value than any other one product of the farm, not excepting wheat, king corn, cattle or hogs. Yet our farm papers, like the farmers themselves, pretty much neglect this most important subject. They seem to leave it to the special poultry papers, which, without exception, run off to dry or wet mashes and other things not practical for the farmers. What is needed is to awaken the farmers to realize the fact that if poultry is to be kept on the farm it is much more profitable to keep the best. If it pays to introduce the blood of modern pure bred hogs, beef or dairy cattle, it will pay equally well to the amount invested to grade up the poultry. If it pays to give farm animals good care it will certainly pay as well to take good care of the hen. It is a well-known fact that when one has anything better than the ordinary he takes pride in it and gives it especial care, and any one branch of farming that receives especial care will yield a better profit than other branches in which only a passive interest is taken.

A male is half the herd or flock, therefore a well bred pedigreed male will impart the good qualities of his stock into the offspring in proportion to his breeding, and this breeding, if it has been thorough, has been to make the animal excel, either as a beef or milk producer, better hams or bacon, or as a general purpose animal, and in fowls, better layers, better market fowls or uniting the two in the general purpose fowl. Farmers, as a rule, say poultry don't pay, and I agree with them that the kind they keep and with the care given it, it doesn't pay. Neither would a dairy stocked with the mongrel blood of 25 years ago and given the slip-shod care of the common Western farmer pay! Farming must be up-to-date, and if the farmer is a specialist he is more likely to be up-to-date. If he is a general farmer he is certain to not keep all his lines up-to-date, and the lines he neglects will not pay. Had the poultry been bred upon modern lines to the extent of general farm animals the value of poultry products as given in the last census, would have been 25 to 50 per cent. greater. Therefore if chickens must be kept on the farm, and it is evident that they must, may the day soon come when they realize that the better poultry they have and the better care given it, the better it will pay.

The Agricultural Colleges, like poultry papers, go a step too far, and enter the fancy class. What farmers need to be taught is simple, practical lessons; not mashes and fussing. Neither corn meal dough, but a wholesome, balanced ration, and that in a dry feed that takes little time from other work. Also practical lessons in housing and sanitary measures. The only medium through which this can be done is the farm papers, and this branch of farm work is the one most neglected. To reach the farmer only such simple, practical lessons should be given, such as those of Mr. Terry on tillage, clover, cement floors, Robert's dairy, building up the farm and others; those are lessons that strike deep and add thousands of dollars to the farmers' bank accounts and to pay off the mortgages. Honor to Mr. Terry for his wisdom and good deeds, and to the most estimable P. F. and its staff, for the simple, helpful lessons they are giving us. Poultry lessons, given on the same lines as Robert's dairy has been (breeding from a thoroughbred bull, keeping only the best milkers, feeding a balanced ration, etc.), is the way to get farmers interested. I am a farmer, and during the past three years have experimented on this line until I am satisfied there is more money for the Central Western farmer to improve his flock of poultry and give it reasonably good treatment and care than in any other line of farm work. This has been accomplished on a rented farm of 200 acres, that also produced, last year, 3,300 bushels of wheat, 2,500 bushels of corn, 75 head of hogs, 2,400 bushels of potatoes, besides hay and other crops. Help was two men and myself for regular, and extra day men during harvesting; wife and a hired girl. I give this to show that the fowls have not received extra care, as all the work on a farm such as this, must be reduced to a systematic basis. Good poultry rightly handled (not neglected), will pay richly, and this letter has been written in the hope that it may aid my brother farmers to increased interest in this neglected line.

Wanda, Ill.

◆

Heebner Threshers and Powers.—The machines which go hand in hand upon the farm, allowing the owner to do for himself what would cost him a considerable sum if he had to hire, are the Heebner threshers and cleaners, and the level tread powers. Both represent high types of usefulness, as well they might, for they have been manufactured by one concern, the Heebners, father and sons, at 21 Broad St., Lansdale, Pa., for upwards of sixty years. The powers can be put to dozens of different uses on the farm besides threshing. The threshers have a capacity of from 200 to 500 bushels per day. The owner of one easily does his own threshing, and may quickly recover the entire cost by threshing for his neighbors. All grains and grasses are within their compass, and they come from the machine ready for the bin. It should suggest to readers that it is as good a plan to do for one's self, to be independent of the coming of the thresherman, and to save where savings can so easily be made. Write to above address for catalogue and be sure to mention the P. F.

Tuttle's American Condition Powders A specific for impure blood and all diseases arising therefrom. DR. S. A. TUTTLE, 28 Beverly St., Boston, Mass.

B B B MAKES HENS LAY. Send for sample and book, free. D. W. ROMAINE, 124 Warren St., New York.

SAMSON Galvanized Steel Wind Mills. Sold under a most positive guarantee. Write for handsome Illustrated Catalogue FREE. The Stover Mfg. Co., 562 River St., Freeport, Ill.

CYPHERS INCUBATORS & BROODERS. Famous all over the world. 1903 Great Catalogue No. 96 Free. Cyphers Incubator Co., Buffalo, N. Y.

POULTRY Hay, straw, fruits and produce sold on commission. Prompt returns. Careful personal attention to every shipt. Est'd 59 yrs. GIBBS & BRO., Com'n Merchants, PHILA., PA.

MAKE HENS LAY Get a Mann's Model Bone Cutter F. W. MANN CO., Box 14, Milford, Mass.

Choice Buff Plymouth Rocks Only. CIRCULAR FREE. JACOB A. HEATWOLE, HARRISONBURG, VA.

Death to Lice on hens and chickens. 84 page Book Free. D. J. LAMBERT, Box 312, Apponaug, R. I.

Young's Anti-Abortion Food for Cows is the recognized remedy by the profession in this part of the State, and is rapidly becoming known as the invaluable agent of relief all over United States. After a trial it is its own recommendation. Write for particulars. Young's Feed Co., Media, Pa.

LARGE IMPROVED YORKSHIRES. The small York grown up; the best white hog, easy keeping and prolific. Young stock for sale. E. E. STEVENS, Madison, Lake Co., Ohio.

Registered P. China, Berkshires & C. Whites, 8 wks to 6 mo.; mated; not akin; service Boars; Bred Sows. Write for prices and description. We refund the money and have them returned if not satisfied. Hamilton & Co., Ercildoun, Chester Co., Pa.

NO HUMBUG. Three in One. Swine V, Stock Marker and Calf Dehorner. Stops swine from rooting. Makes 48 different ear marks. Extracts Horns. Price $1.50. Send $1 for trial. If it suits, send balance. Pat'd May 6, 1902. Hog and Calf Holder only 75c. FARMER BRIGHTON, FAIRFIELD, IOWA.

BREEDING STOCK FOR SALE. Great laying Barred P. Rocks. Having finished hatching for this season, I will sell my breeding stock in lots to suit and of prime quality. Must be sold to make room. Write for prices. J. W. PARKS, Box 580, Altoona, Pa.

The Practical Farmer.
FOUNDED IN 1855
Published Weekly by The Farmer Co.
P. O. Box 1317
S. E. Corner Market and 18th Streets
Philadelphia, Pa.
Entered at the Philadelphia post office as second-class matter.
PROF. W. F. MASSEY, Editor.

Philadelphia, June 20, 1903

S. S., who writes in regard to an advertisement in the P. F. is informed that the business management of the paper would never have admitted the ad. if they had any doubt of the ability of the advertiser to keep his contract. The Editor knows that no fraudulent offers are allowed to appear in these pages.

A Fine New Edition of a Fine Old Book.

The "American Fruit Culturist," by J. J. Thomas, has long been, along with Barry's and Downing's books, regarded as a standard treatise on fruit culture. The twenty-first edition now just out, has been revised and enlarged by William H. S. Wood, and now assumes the very first place in the literature of American fruit culture. Those who have had only the earlier editions will hardly recognize the book in its present massive form. The mechanical get up is excellent, and the more than eight hundred illustrations add greatly to the importance of the work. One of the most important features in the book is the bringing it up to the latest investigations in regard to destructive insects and the means to be used in preventing their ravages. No progressive fruit grower can afford to be without this monumental work. It can be had of The Farmer Co.

The Cost of Fertilizers.

We wish to call especial attention to the Cream of the Bulletins this week. This bulletin has more information for the farmer than is usual in the bulletins of commercial fertilizer analyses. There is no question more frequently asked us than what should be the price for certain fertilizers and fertilizing materials. We have consistently urged on our readers the economy of buying the unmixed materials and making their own fertilizers to suit their soil and crops. This bulletin will be a great aid to the farmers of Vermont, and if its teaching are regarded will save them a great deal of money. As a rule, the farmers in all the States pay too little attention to these reports of analyses of fertilizers offered them, and fail to realize that while the manufactured goods may be all that is claimed for them the difference between the price charged for the ready mixed fertilizer and the price at which the material can be bought at retail on the market is entirely too large. The bulletin at hand shows that in the average low grade fertilizers sold one can buy the same amount of plant food at retail, unmixed, for 60 cents which costs $1 in the factory mixed article. In North Carolina, and it may be in some other States, the State chemist gives the price of the plant food materials at the seaboard and a table of freight rates to the leading points in the State. One, then, who studies these tables can easily see what the cost would be to him to mix his own fertilizers. The difference between the value of the plant food in a manufactured fertilizer and the selling price is necessarily considerable because of the agents' commissions, advertising and a host of other expenses which the manufacturers must pay in the great competition for the sale of the host of brands on the market, while none of these would come to the farmer who buys the materials and makes his fertilizer at home. Farmers in buying a manufactured fertilizer are too apt to buy by the brand name. If they would study the tables of analyses they would see that there are many of these articles which are identical in composition, while various prices are charged for the same thing. Then the buying of a special fertilizer for potatoes and another special for corn or wheat is shown to be a humbug in the bulletin. What the farmer needs to know is the amount and percentage of the various plant foods which the fertilizer contains and the availability of these to plants. It is plainly shown in this bulletin that some manufacturers commonly use leather scraps and other worthless material for organic nitrogen. And the chemist cannot positvely say that this is the case. Hence, when a farmer buys nitrate of soda, dried blood, tankage or fish scrap to get his ammonia he knows that he is not getting leather scraps, and so with the other materials. It may be important to him to have his potash as a sulphate, while the manufacturer can get it more cheaply in the muriate. The lesson of all of this is to buy the materials your soil needs and mix the fertilizer at home, and to experiment to find what your soil does need and then do not buy what you can do without.

The Time for the Silo.

Now that so many are lamenting the shortness of the hay crop those who have a silo are fortunate. There is still time in most parts of the Upper South and Lower Middle States to get a crop of corn for the silo, and there is also time to get in the soy beans to help out the silage. Then, too, in the same sections the Southern cow pea comes in as a catch crop of great value. Fortunately the seed peas are plentiful and cheaper this season than ever and farmers can afford to use them liberally. If the weather, when they are mature enough for hay, is not favorable for hay making they can be made to supplement the corn in the silo and make a balanced ration for the stock. The shortness of the hay crop must be met, and there is no time to lose in getting in the crops that will help the situation. Even if it be only to help the pastures and to keep up the milk flow the cow pea will be found valuable. For the silo, the soy beans are more easily harvested, and they, too, will add protein to the corn silage. But Indian corn is the great silage plant and it should at once be gotten in in plenty. We have made silage in great abundance in Central Virginia from corn planted as late as July 1st, on moist bottom land. In most of the Middle States hay is going to be scarce and high and everyone should endeavor to provide for the lack. Where there is no silo it will take but a short time to build one while the corn is growing, and we urge the importance of doing so on all who have heretofore neglected this means of providing forage.

What Canada is Doing for Agriculture.

It has long been known that the Province of Ontario, Canada, has an Agricultural College that is second to none in America, and the influence of that College on the development of Canadian agriculture has been very great, for the Canadian farmers seem to seek help from their college far more than our farmers in any of the States do. The wide reaching influence of the Guelph College has been very largely due to the efforts made years ago by Prof. Robertson for the improvement of the dairy products of Canada. It is stated that as late as 1886 when Prof. Robertson became Professor of Dairying at Guelph the Dominion exported butter and cheese to the amount of $7,500,000, and in 1902 these exports had increased to $25,000,000. This improvement has been largely brought about through the efforts of Prof. Robertson as Commissioner of Agriculture for the Dominion of Canada. All through Canada he has taken his staff and taught in the hamlets and villages, scientific dairying by practical object lessons. Now his attention is being devoted to the improvement of the rural schools by the teaching of nature studies and putting in practice by the pupils in the soil the lessons taught about plants. We, in the States, have a great deal to learn from Canada in regard to agricultural teaching. The Ontario College does not attempt to teach mechanics, civil engineering, etc., but does teach to the farm boys gathered there, agriculture and horticulture in a thorough and practical way. The movement towards the teaching of elementary matters in regard to soils and plants in the common schools is one we need above all others in the rural public schools in this country. Our Colleges of Agriculture are handicapped by the utter ignorance of the students coming to them in everything that leads to agriculture. The secondary schools are preparing the students only in the old way for college, and the result is that in Agricultural Colleges much time has to be lost in the teaching of elementary matters which the students should be taught before coming, and the course in agriculture is necessarily longer in the colleges by reason of this lack of elementry instruction. The most important matter, then, before us in the improvement of the rural schools is to set them to teaching something that the farm boys and girls need to know. They are now taught only such things as will be of use to them as clerks in country stores and traders, while everything that pertains to the life of the farm is entirely ignored. The elementary education is all the while tending away from the farm and towards the town, and it is hardly to be wondered that the boys taught in this way should seek the so-called commercial colleges and drift into bookkeepers and clerks instead of farmers, and if they love the farm and want an agricultural education they have to spend a year or two in the Agricultural College learning the elementary matters they should have been taught before going there, while the valuable time of the professors in these colleges is taken up in preparing young men to learn, really conducting for two years of the course, a secondary school.

It is evident, then, that all over the land the most important thing in regard to agricultural training is to start it in the rural schools. To do this, the teachers in these schools must be taught, and one of the best ways to do this is by the college inaugurating summer schools for teachers. The Agricultural Colleges can do this better than elsewhere, for during the summer vacations the teachers in the rural schools can have the vacant rooms in the colleges and learn from the work going on in the great laboratory of the farm and the smaller laboratories of botany, biology and chemistry the matters they should teach. This is being attempted at some colleges, the North Carolina College starting this summer with a school for teachers on broad lines and with a full corps of teachers, and it is to be hoped that from this start there will be, all over the land, these summer schools for teachers at the colleges, and that in the near future the boys and girls in the rural districts will be taught something besides the three Rs.

The Cream of the Bulletins.

Vermont Agricultural Experiment Station, Burlington, Vt., Bulletin No. 99. Commercial Fertilizers. J. L. Hills and C. H. Jones.

The introduction states that this bulletin differs materially from those on the subject in past years in that while giving the usual list of analyses of licensed fertilizers it contains a somewhat full discussion of several phases of the general subject of fertilization and the materials used in fertilizers, the meaning of the analyses and a review of the use of fertilizers in Vermont as shown by the census returns. This is in accordance with the fertilizer law which requires that "additional information in relation to the character, composition, value and use of the commercial fertilizers sold in the State shall be supplied." The bulletins also, as far as possible, avoids technicalities and uses plain language, while for the further assistance of the reader a glossary of terms used is given. The improvement in the manufacture of fertilizers is shown by the fact that 96 per cent. of the brands analyzed met their guarantee and none failed to afford a commercial equivalent thereto. The average commercial fertilizer carried ten per cent. more plant food than it was claimed to contain, though the quality is said to be rather poorer, as an average, than the year before. Only five brands failed to meet their promises, four being short in available phosphoric acid and one in potash. "Three of these brands are notorious sinners in this respect." * * * "In a few case, however, and notably with the goods of two companies selling in this State, the organic nitrogen does not seem above suspicion. The goods made by one of these have ranked at the foot for some years. Several inferior, if not worthless, forms of organic nitrogen are for sale and are known to be used to some extent in fertilizers. * * * Nitrogen from organic matter is insoluble in water, and may be either quickly or slowly available to plants according to its source, whether from dried blood, cottonseed meal, etc., on the one hand, or, on the other, from such materials as leather or garbage tankage." It would be better for the farmers if the bulletin stated plainly which of the brands is suspected of using the worthless leather scraps as organic nitrogen, for while analysis will show that the nitrogen is there it is worthless to the farmer if from any such source. Therefore the firms who habitually put such on the market should be pointed out. Still, since the analysis cannot positively show the source of the nitrogen the Station can only say that the goods of certain manufacturers is uniformly of less solubility as regards the nitrogen than the goods made by others in the list, but they should be plainly named. The value of the plant food bought for $1 shows the importance of buying high grade rather than low grade or apparently cheap fertilizers. In the low priced fertilizers the dollar bought 74 cents' worth of plant food; in the medium priced goods 76 cents' worth, and in the high priced goods 86 cents' worth of plant food. Some of the brands of low grade fertilizers give less than 60 cents' worth for the dollar and the same is true to a smaller extent in the medium and high grade goods. The same amounts of plant food which cost one dollar in the average low grade goods might have been bought in the unmixed state at retail on the seaboard for 60 cents; those in the medium priced goods at 64 cents and those in the high priced goods at 73 cents. In some brands the materials could be bought at retail for 47 cents which cost $1 in the factory mixed article. This shows plainly what the farmers are losing by not mixing their own fertilizers. It is stated that in three-fifths of the low priced brands, the charges for mixing, sale, etc., aggregate 40 per cent. of the selling price. This is an old story, but one that needs to be kept before the users of commercial fertilizers, and it is evident that while the fertilizers sold in Vermont may be equal to the guarantee the prices are entirely too high. "The lower the grade of the goods, usually, the more high flown the name, and it often happens that so-called special fertilizers but poorly suit the nature of the crops whose names they bear." * * * "One manufacturer remarks that buyers prefer to see the word potato on the bags when the goods are to be used on that crop, and corn when to be used for corn," and the local dealer is apt to add to the price a couple of dollars per ton for the pleasure of having the words of the crop printed on the sacks. In one case a long time standard goods was sold at a much higher price than the selfsame goods under a different name by the same agent. This has come to be a regular practice. This bulletin is one of the most thorough discussions of the fertilizer matter we have ever seen, and furnishes a powerful argument for the home mixing of all fertilizers used on the farm. Our summary of it is necessarily brief, and all who can should get the bulletin and study it.

Our Business Corner

THE FARMER CO.,
S. E. Cor. Market & 18th Sts., Philadelphia.
HENRY HARRIS, Business Manager.
Special Advertising Representative
S. E. Leith, New York.

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Regular advertisements (agate measurement), **30 cents per line.**

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All subscriptions are discontinued at the expiration of the time paid for. Renewals should be sent in two weeks before the date on the address label, if you wish to continue a subscriber.

We cannot be responsible for money sent in letters **not registered**, or in any other way than by P. O. Money Order, Bank Draft or Check.

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A Pointer for Advertisers.

The winter and spring advertising of the P. F. this year has been the largest in its history. The reason is not far to seek. The P. F. has always been a profitable medium for advertisers who wished to reach the progressive farmers of the country. This year by reason of a very largely increased circulation among that class returns to advertisers have been phenomenal; and the increased pressure on our advertising columns naturally followed. Our subscription campaign continues right through the year; there is no let-up in the summer; no summer rest. At our present rate of increase we shall enter the fall months with a largely increased circulation among the very best farmers in all sections of the country. This increase has come to stay. No advertiser who wishes to do business with this class of customers can afford to be out of the columns of the P. F.

COMMERCIAL

Philadelphia, June 13, 1903.

WHEAT.—

No. 2, red, s. t.	81 @	81½
No. 2, Penna, and Del.	82 @	82½

CORN.—

No. 2, spot and June	53½@	54
No. 2, yellow	56 @	56½
No. 3	49½@	50

OATS.—

White natural, no grade	42½
No. 2, white clip	44

LIVE POULTRY.—

Offerings of fowls were a little more liberal and the market was a shade easier, with only a moderate demand. Spring chickens were in fair request and steady with supplies well cleaned up.

Fowls, hens, per lb.	14½	
Roosters, per lb.	10	
Spring chickens—		
1½ to 2 lbs., per lb.	25 @	28
Smaller sizes, per lb.	18 @	23

DRESSED POULTRY.—

Fresh killed fowls, choice	15	
Fresh killed fowls, average	14 @	14½
Fresh killed old roosters	10½	
Fresh killed broilers, nearby	30 @	35
Fresh killed broilers, West.	25 @	30
Frozen broilers, Western	15 @	22
Frozen roasters, choice	16 @	17
Frozen turkeys, young toms	19	

BUTTER.—

Receipts, 2,633 tubs and 3,626 boxes. The market for Western creamery continued in excellent shape and firm, with an active demand, largely for storage, which closely cleaned up the supply of fine goods. Dealers were generally able to buy moderate sized lots of extras for immediate consumption at 23c., but speculative operators, in many case, paid 23¼@23½c. in order to get long lines showing perfect quality. Imitation creameries and ladle packed continued scarce and firm. Receipts of prints were more liberal, but supplies of fancy goods were kept well cleaned up at steady prices. A good deal of the offerings consisted of unattractive qualities, which had to be sold at relatively low rates.

Western creamery, extra	22 @	23
Western creamery, firsts	21 @	21½
Ladle packed	15 @	17
Prints, nearby, extra	23 @	24
Prints, nearby, firsts	21 @	22
Prints, Western	19 @	23

EGGS.—

Receipts, 4,512 crates. There was continued scarcity of strictly fine eggs and the market for this description advanced ½c. under a good demand. Few of the arrivals were free from heat defects and dealers in many cases had difficulty in securing supplies of desirable stock. Unattractive invoices were pressed for sale at best rates obtainable.

QUOTATIONS AT MARK.

Nearby fresh, ret'bl crates	17½@	18
Western, choice, free case	17½@	18
So. Western do do	17	

Recrated, 1@2c. above wholesale prices.

CHEESE.—

Receipts, 873 boxes. Arrivals were more liberal and the market declined ½c. under an indifferent demand and lower country advices.

N. Y., f. c. small—		
New, choice	11	
Fair to good	10¼@	10¾
State, part skims, prime	7 @	9

VEGETABLES.—

Beans, Nor., per ½-bbl. bas.	2.50 @	2.75
Beans, wax, ½-bbl. bas.	1.50 @	1.75
Beets, So., per 100 bun.	2.00 @	3.00
Cabbage, So., bbl. crate	1.00 @	1.25
Cucumbers, Char., bas.	2.00 @	2.75
Cucumbers, Fla., per crate	1.00 @	2.00
Cucumbers, Fla., per basket	1.25 @	2.25
Eggplants, Fla., box	1.50 @	2.50
Onions, N. O., bag	1.40 @	1.50
Squash, So., per 1-3-bbl. bas.	75 @	1.00
Tomatoes, Florida, crate	1.00 @	2.00

POTATOES.—

White, Pa., per bu.	70 @	73
do New York, per bu.	65 @	68
do Western, per bu.	55 @	65
do Southern Rose, pr., bbl.	2.50 @	3.00
do do do Md., bbl.	1.50 @	2.00
do do do Chili, No. 1, bbl	2.00 @	2.50
Sweets, Jersey, per basket	40 @	50

BEANS AND PEAS.—

Beans, marrows, H. P., bu.	2.65	
Pea beans, H. P., 1902	2.35 @	2.37
Red kidney, 1902	2.90 @	3.00
Scotch peas, per bu.	1.65	
Green peas, per bu.	1.60	

COTTON.—

Cotton, per cwt.	12.40

FEED.—

Bran, bulk, winter, per ton	19.50 @	20.00
Bran, sacked, spring	19.50 @	20.00

HAY AND STRAW.—

Timothy, N. Pa., choice, l'g.	22.00 @	22.50
do Western	21.50 @	22.00
Timothy, mixed Western	15.00 @	18.00
Straw, straight rye	17.50 @	19.00
Wheat	9.50 @	11.00
Oat	8.50 @	10.00

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle active.

Extra steers	5¼@	5⅝
Good steers	4⅞@	5⅛
Medium steers	4½@	4¾
Common steers	4⅛@	4½

CALVES.—

Veal calves a shade easier.

Extra calves	7¼@	7½
Fair to good	6 @	7
Poor and common	4½@	5½
Grassers	3 @	4

HOGS.—

Hogs steady.

Fat hogs, Pa., Del. & Md.	6½@	8
Fat hogs, Western	8½@	8¾

SHEEP.—

Sheep active, spring lambs about steady.

Sheep, extra	4¾@	5¼
Sheep, good	4¼@	4½
Sheep, medium	2 @	3½
Sheep, common	2 @	3¼
Lambs, spring	5 @	8¼

New York, June 13, 1903.

WHEAT.—

No. 2, red	85
No. 1, No. Duluth	89¼

CORN.—

No. 2	57
No. 2, white	56½
No. 2, mixed, f. o. b.	56½
No. 2, yellow	57

OATS.—

Standard white	43
No. 2, white	43¼
No. 2, white clipped	43½
No. 2, mixed	40
No. 2, mixed clipped	41
No. 3, mixed	39½
No. 3, white clipped	43
No. 3, white	42¾

HAY AND STRAW.—

Timothy, large bales, cwt.	1.15 @	1.20
No. 1	1.05 @	1.10
No. 2	95 @	1.00
Clover, per cwt.	65 @	75
Straw, long rye, per cwt.	90 @	1.00
Straw, oat, per cwt.	55 @	60

BUTTER.—

Creamery, extra, per lb.	22	
Creamery, firsts	21 @	22
Creamery, ordinary	18 @	20½
State dairy, fresh, tubs—		
Fancy, per lb.	21 @	21½
Firsts, per lb.	19½@	20½
Ordinary, per lb.	17 @	19
West. Imitation Creamery—		
Finest, per lb.	19	
Ordinary, per lb.	17 @	18
Western Factory—		
Finest, per lb.	16½	
Ordinary, per lb.	14 @	16
Packing stock, solid packed.	14 @	16
Rolls, fresh, com. to prime.	14 @	16

CHEESE.—

State, f. c., small, choice	10⅝	
Fair to prime	8½@	10¼
Large colored, choice	10⅝	
Large white, choice	10½	
State, light skims—		
Choice	8½	
Part skims, prime	6¼@	6¾
Full skims	2	

EGGS.—

QUOTATIONS AT MARK.

State, Pa., and nearby—		
Fancy selected white	19 @	19½
Fresh gathered, extras	18½	
Fresh gath'd, 2nds to 1sts	15½@	17
Western—		
Fresh gathered, extras	18 @	18½
Fresh gathered, firsts	16 @	17
Kentucky, seconds	14 @	15
Tennessee and other Southern—Thirds	13 @	13½
Western, dirties, fresh gath.	12 @	14

LIVE POULTRY.—

Spring chickens, nearby, lb.	25	
Western, per lb.	23 @	25
Southern, per lb.	20	
Fowls, per lb.	14	
Roosters, per lb.	9½	
Turkeys, per lb.	11 @	12
Ducks, average, pair	70 @	1.00
Geese, average, per pair	90 @	1.25
Live pigeons, old, pair	35	
Live pigeons, young, pair	25	

DRESSED POULTRY.—

FRESH KILLED—ICED.

Turkeys—		
Average best, per lb.	13 @	15
Old	14 @	15
Broilers—		
Phila. 2 lbs av. to pr. per pr	50	
Phila., 3 to 4 lbs. pair, lb.	34 @	36
State & Penna., 3 to 4 lbs. to pair, per lb.	30 @	32
Balt., d. p., 2 lbs. per pair	45 @	50
Western, d. p., per lb.	26 @	28
do scalded	22 @	24
Fowls, West., scald., sm., fcy	14½	
Dry picked, small, fancy.	14½	
Heavy	13	
Southern & So. West., d.p.	14½	
Scalded, per lb.	14	
Spring ducks—		
Long Island, per lb.	17	
Eastern, per lb.	17	
Jersey, Pa. & Va., per lb.	16 @	16½
Squabs—		
Prime, large, white, doz.	2.75	
Mixed, per doz.	2.25	
Dark, per doz.	1.50	

FROZEN.

Turkeys—		
Young hens & toms, No. 1	17 @	18
Roasting chickens, large and soft meated	16 @	17
Average, No. 1	15 @	15½
Broilers, d. p., No. 1	19 @	21
Broilers, scalded, No. 1	16 @	18
Capons, choice, heavy	21 @	22
Medium size	19 @	20

APPLES.—

No. Spy, bbl.	2.00 @	3.50
Russet, per bbl.	2.00 @	3.25
Ben Davis, per bbl.	2.00 @	3.00
Baldwin, per bbl.	2.00 @	3.00
So., new, bas.	50 @	1.50

GREEN FRUITS.—

Cherries, large, lb.	5 @	10
Blackberries, N. C., qt.	8 @	12
Huckleberries, N. C., qt.	10 @	15
Gooseberries, per qt.	5 @	6
Oranges, Cal., blood, box	2.40 @	3.00
Oranges, Cal., blood, ½ box.	1.50 @	2.00
Oranges, Cal., navels, box	2.50 @	4.25
Oranges, Cal., seedlings, box	2.00 @	2.50
Pineapples, Fla., 24s-30s	1.75 @	2.25
Strawberries, Del. & Md., qt.	6 @	10
Strawberries, up river, qt.	7 @	12
Strawberries, So. Jer., qt.	7 @	10
Muskmelons, Fla., crate	1.00 @	3.00
Watermelons, Fla., car	200.00 @	275.00
Peaches, Fla., carrier	1.00 @	2.50
Peaches, Ga., carrier	1.00 @	2.00
Peaches, N. C., carrier	1.25 @	2.00
Raspberries, Del. & Md., qt.	6 @	10
Plums, Ga., carrier	2.00 @	2.25
Grape fruit, Cal.	2.00 @	4.00

VEGETABLES.—

Asparagus—		
Colossal, per doz.	4.50 @	5.00
Extra, prime, per doz.	3.50 @	4.00
Prime, per doz.	2.00 @	3.00
Cull, per doz.	1.25 @	1.75
Lima beans, Fla., crate	3.00 @	3.50
String beans—		
Wax, per basket	75 @	1.50
Green, per basket	75 @	2.00
Beets, per 100	2.00 @	4.00
Cabbage—		
Norfolk & So., bbl. crate.	1.00 @	1.50
Carrots, old, bbl.	1.00 @	3.00
Per 100 bun.	1.00 @	2.00
Corn, green, bus. or crate	2.50 @	3.00
Cucumbers, Fla, crate or bas	1.75 @	2.75
Char. or Sav., bas.	1.75 @	3.00
Eggplants, box	1.00 @	2.50
Lettuce, nearby, per bbl.	1.00 @	1.50
Parsnips, per bbl.	75	
Peas, Long Island, bag	1.25 @	1.75
Del. & Md., bus.	1.00 @	1.50
Jersey, bas.	1.25 @	1.75
Peppers, green, Fla., crate	1.50 @	2.00
Radishes, per 100	50 @	1.00
Rhubarb, per 100 bunches	1.00 @	1.75
Spinach, per bbl.	75 @	1.00
Squash—		
So., white, bbl. crate	1.00 @	2.00
So., yel., crookneck, bu.	30 @	60
Marrow, bbl. crate	2.00	
Turnips, white, 100 bun.	2.00 @	4.00
Turnips, Rus., bbl.	1.50 @	1.75
Tomatoes, Fla., fancy, car.	75 @	1.50
Onions—		
So., basket	1.00 @	1.25
Texas Bermudas, crate	1.90 @	2.00
Texas Bermudas, bag	2.90 @	3.00
New Orleans, bag	1.40 @	1.50

POTATOES.—

Char. & Sav. Rose, pr., bbl.	2.50 @	3.25
White Chilis, prime, bbl.	2.25 @	2.75
Red Chilis, prime, per bbl.	2.25 @	2.50
N. C., Rose, prime, per bbl.	2.50 @	3.00
White Chilis, prime, bbl.	2.25 @	2.75
Red Chilis, prime, per bbl.	2.25 @	2.50
Norfolk, Rose, prime, bbl.	2.25 @	3.00
Chilis, prime, bbl.	2.25 @	2.50
Eastern Shore, rose, per bbl.	2.25 @	2.75
Chilis, per bbl	2.25	
Southern seconds, bbl.	1.50 @	2.00
Southern culls, per bbl.	1.00 @	1.25
Old domestic—		
In bulk, per 180 lbs.	2.50 @	2.75
Per 168-lb. sack	2.40 @	2.60
Common, per bbl. or sack	2.00 @	2.37
Sweets, Jersey, per basket	1.00 @	1.50

Explanation of Market Terms.

The market quotations of fertilizers and fertilizer materials are certain terms which may not be familiar. For instance, tankage or any other material containing nitrogen may be quoted at a certain price "per unit" of ammonia, and elsewhere you may find the price of potash salts or phosphoric acid as so much per unit. In the fertilizer trade these things are always sold by the unit, a unit being one per cent. on the basis of a ton, or twenty pounds of the ingredient named. A unit of ammonia, then, at $2.50 would mean that the ammonia is worth 12 cents per pound. Reduce this to nitrogen and you will find that at this price the actual nitrogen costs a little over 14.5 cents per pound. Then when muriate of potash or sulphate of potash are quoted 80 per cent. In the case of the muriate, it does not mean that there is 80 per cent. of potash, but of the muriate pure, which would make the actual potash 50.56 per cent. If high grade sulphate of potash is quoted at 90 per cent. It means that the actual potash in it is 48.6 per cent. In other words, to find the actual potash in muriate, multiply the percentage by 0.632. To get the actual potash in the high grade sulphate multiply the percentage by 0.54. The same rule will apply to the double manure salt or low grade sulphate of magnesia-potash.

AGRICULTURAL FERTILIZERS.

AMMONIATES.

Nitrate of soda, per cwt.	2.15 @	2.20
Su.phate ammonia, per cwt.	3.15 @	3.25
Tankage, per unit ammonia	2.12½@	2.15 and 10
Dried blood, N. Y., low grade	2.60 @	2.65
do West., high grade, fine ground	2.65 @	2.70
Cottonseed meal, ton, c. i. f. N. Y.	27.00 @	28.00
Fish scrap at N. Y.	2.55 and 10	

PHOSPHATES.

Acid phos., 12-16 p. c., unit	60 @	67½
Bone black, per ton	18.00 @	19.00
Ground Bone, per ton—		
Steamed, f. o. b., Chicago	18.00 @	19.00
Raw, f. o. b., Chicago	22.00 @	23.00

POTASH.

Muriate potash, 80 p. c., future shipment	1.83 @	1.95
Manure salt, high grade (90 to 95 p.c. sulphate potash) ship., basis 48 p. c.	2.11 @	2.20
Manure salt, double (48 to 49 p. c., less than 2½ p. c. chlorine), per lb.	1.12 @	1.24
Manure salt, in bulk, 20 p. c. per unit, O. P., basis 90 p. c.	64	

WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.

XX and above	30@31
X	27@28
Medium	29@30
Quarter blood	28@29
Common	25@27

UNWASHED (light and bright.)

Fine	19@22
Medium	21@22
Quarter blood	21@22
Coarse	19@20

UNWASHED (dark colored.)

Fine	16@17
Fine medium	17@19
Medium and quarter	18@20
Coarse	17@18

COMBING AND DELAINE FLEECES.

Washed fine Delaine	31@33
Washed medium	30@31
Washed low	28@29
Washed coarse	27@28
Unwashed medium	22@23
Unwashed quarter blood	22@23
Braid	20@22

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Prize Offer.

For the best five contributions sent us before August 7th, one dollar each. Please do not cramp your writing. Leave room for the insertion of possible corrections. We do not care for large margins. Write something of mutual interest—something that will in some way help somebody. Send direct to Sun Prairie if you wish to be considered a contestant. One person can compete with as many pieces as he or she desires. Do not ask for return of MS.

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Maggie and John.

JULIAN COOK.

So Maggie and John have parted, you say,
And gone their separate ways?
After living and loving so many years,
Apart they will end their days?

Ah, well I remember the day they wed—
Some thirty odd years ago
When they took each other for better or worse,
For weal as well as woe.

She was a rosy cheeked lassie then,
And he a stalwart lad,
She was ambitious, and blithe and gay,
He sober like his dad.

He rented the farm beyond Swan Bridge,
And started a small, humble home;
But Maggie declared they should own the place,
Though she worked her fingers to bone.

Her household tasks being soon all done,
She took to helping John
At milking, and hoeing, or pulling weeds,
And the summer months sped on.

Through the fall and the long cold winter,
She toiled for a home of her own;
But she knew e'er spring sent them smiling rays,
She was working her fingers to bone.

The second summer came a wee sickly babe,
And Maggie's strength seemed to fail,
But still she pressed on toward her cherished goal,
Though her cheek grew wan and pale.

She kept one great ambition in mind,
And labored early and late,
Up in the morning to milking and chores—
Never for the sun did they wait.

But when, in fall, the leaves turned to gold,
The wee babe hushed its cry,
And in its mother's work worn arms
Laid its tiny head to die.

They laid it away in the church yard cold,
One tiny grave of green,
But the mother's face wore more helpless grief
Than I had ever seen.

But all through the long, dreary winter,
She struggled on as before,
And milked and churned and planned and saved,
Though bitter her sad heart's core.

And when, in the third mid-summer
Another babe came to her arm,
It only added to the mother's strong will
To have for their own the farm.

Her cheek had lost all its roundness,
Roughened with toil were her hands,
But still she worked in the field with John,
To help carry out their plans.

And so they worked for twenty-odd years;
To the farm John held a deed;
And of horses and cattle and sheep and swine,
There was all any man could need.

And seated around the evening board,
Four children now are seen,
But in the churchyard beyond the hill,
Are six tiny graves of green.

And Maggie? Ah, Maggie's careworn face
I'm sure you'd never know;
Nor believe that she was the rosy lass
Wedded twenty-odd years ago.

At last the hard-earned goal was reached,
At last the farm was theirs;
But ah, they had paid a heavy price,
And many had been their cares.

And then John grew weary of the farm,
Talked of selling and moving to town,
And gaining at last time to rest and read,
And chance to look around.

But Maggie's eyes filled with wistful tears,
The house was dear to her heart,
And from the fields where the children had played,
It seemed she could never part.

For months she held against selling out,
Like one whose doom would be sealed,
And so there came between Maggie and John
A breach that never healed.

But in the end John's will prevailed,
He moved his family to town,
Where his children might go to graded school,
And he have time to sit down.

The price of the farm he wished to invest,
So 'twould bring a fair income for life;
But John had lived all his days on a farm,
Nor was he used to town trickery and strife.

And his money by littles dwindled away—
John owned he was likely a fool
And Maggie took sewing and knitting to do,
To help keep the children in school.

John, tired of reproaches, and sick at heart,
Wandered away to the West
To fight out alone the battle of life,
Or to find the long sought rest.

And so they parted, Maggie and John;
Have gone their separate ways;
After living together for thirty-odd years,
Apart they will end their days.

Farina, Ill.

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Editorial Chat.

How modern methods revolutionize shopping. This was brought to our mind in looking over the advertisement of R. H. Macy & Co., New York, which has been running in the P. F. Here we are a thousand miles or more from that store, and yet by means of the firm's catalogue and Uncle Sam's mail service, we can shop just as satisfactorily as though we stood at the counters. Perhaps more so, as we sit back in our easy chair and with the catalogue in hand, have the whole stock and prices at our fingers' ends. Say, sisters, don't the bargain fever strike you when you see the prices quoted in the advertisement referred to? Just look it up and you won't rest contented until you have ordered the firm's booklet, "Golden Opportunities for Money Savers." The booklet is sent free if you mention The Practical Farmer.

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We feel that we can not let the terrible massacre of the Russian Jews pass without expressing our righteous indignation and horror. The whole affair outrivals in fiendishness the horrors of old, old times before the nations became civilized (or semi-civilized, for that seems as high a title as we can claim). It was not a simple massacre, a simple taking of life; it was fiendish brutality, worse than we had dreamed possible for creatures created after the similitude of human beings.

As the reports begin to come in from eye witnesses our horror grows. Think of that young mother tortured until, in death, her helpless babe was born and flung from hand to hand of that howling mob! Can it be any of those creatures have wives and babes of their own? Can they be the offspring of woman? Think of that young girl who, by actual count of her hidden countryman, was assaulted by over fifty of the wretches before merciful death released her!

Can it be any of those men have daughters?

And these instances are but two out of the hundreds of like nature that transpired during that reign of terror. Must we, can we sit supinely down and make no protest? It seems that the women of America might, as someone—Ella Wheeler Wilcox, we think—has suggested, send a monster protest to the Czarina. It is said she has grown to have much influence with the Czar. It might do no good, and yet it is reported that the intense indignation expressed by Americans, through the press, is making the Russians very uncomfortable. We certainly want them to be uncomfortable, and while we are not superstitious, we cannot help but feel that God will punish Russia and that right early.

And there are things going on within our own borders that, if not speedily remedied, will doubtless bring us to grief. Nations as well as individuals must sooner or later come to judgment. The great cry at the present time is for "more children." Someone has aptly said: "Not more children but better children." And is not this the true need? A Chicago minister says: "The husband and wife of the childless home may find Heaven's gates barred agains them," and goes on to say that one or two children is not mending matters much. Evidently he believes in what a sister recently termed a "mess" of them. Again he says: "It is one of the cultured lies of the devil that the child ought to be born with a scholarship in college and a bank account, or not born at all." We suppose the members of that Russian mob and all the wicked, corrupt men who instigated it are all right; they certainly come of a people who multiply regardless of scholarships and bank acounts. In our own and all other countries it is apt to be the vicious and illiterate who have the large families. There are said to be 10,000 homeless children in Chicago alone. Would it not be well for our President and some of the conscience smitten bishops and pastors who are doing so much talking, to step in and help save these? No need of childless homes while present conditions exist. If matters could be reversed; if by the cultured and wealthy having large families, the poor and ignorant could be checked, then there would be some sense and reason in all this hue and cry; but it would certainly make no difference; hence it were the safer for our Nation and its homes if the well-to-do would gather in the immortal souls already launched on the tide of time and eternity. A child of poor parents is quite as apt, if properly trained, to become a good man as the child of wealthy parents; and as far as inheriting "natural goodness" is concerned, judging by the daily reports of life among the so-called "smart set" of our cities, the child of "just anybody" has as good a heritage. We claim, and feel that we have right and reason on our side, that one child well born and well reared is a greater boon to humanity and a more acceptable achievement in the sight of Heaven, than a dozen poorly born and poorly bred. The stand Mr. Roosevelt and other prominent persons have taken along this line is not only foolish, but pernicious, because, while it has not the slightest weight with the persons they would influence, it encourages an already too numerous class who, after the child is brought into the world, can do no more for it. It comes up some way, marries one of its own grade and the propagation of the species goes on, each generation growing weaker mentally, morally and usually physically. From these our institutions for the feeble-minded, our asylums and jails are filling up, and it would not help matters one bit if every cultured, wealthy home in the land were full of children. This is not the remedy. There is but one remedy. As we have said before, save the children already born and that will be born.

God loves the waif in the slum as well as he does the President's child. Christ died as much for one as the other. The angels will rejoice far more, we believe, over the home where little ones are gathered in "In His Name" than over the one where an "heir" is born. If Mr. President and all the preachers and reformers would throw a little of their energy into "rescuing the perishing" and saving the Nation from the class of criminals now coming on, they would be the greater benefactors. We do not mean by the above any slur on large families where the parents are healthy, moral people, with sufficient means to give the children a fair "fighting chance" in the world. But we do hold that no woman living ought to be expected to raise children and do her house work, much less do work outside or help earn the living, as too many have to. We heard an old lady say that for twenty-one years, during the time, too, that she was having a large family, she plowed, harrowed and seeded forty acres every season. We know of a wiser woman who said to her husband:

"Now, I am willing to raise a family, but I am not going to do anything else," and she did not, save to supervise her home. She had twelve children and she gave them all her time and talents. Enough for one woman's life work, without cooking and washing for them besides. But perhaps we have aired our opinion sufficiently for once. In conclusion, however, if you have no children, or only one or two, which it seems amounts to the same thing, don't despair of getting to Heaven. Just borrow some!

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The Truck Garden Again.

CHIP HENDERSON.

Gardeners who realize the most profit are those who either put their vegetables on the market early—when the price and demand is good—or grow a choicer article than their competitors. There is also a good demand for vegetables produced at the close of the season. One must learn by experience what to plant, when to plant and how to care for it when plants begin to grow. First, a good, rich piece of ground is essential. This should be deeply plowed in the fall, as after harrowing in the spring you can get in the early peas, cabbage, potatoes, onions, radishes, etc., ahead of your neighbor. At least ten tons of manure should be annually spread over an acre of ground where garden truck is raised. Plant in long rows, and use a wheel hoe in cultivating. Do not crowd your plants, as fine vegetables require space to mature. Endeavor to plant quick growing varieties, and as soon as one crop is matured clear the ground and follow with another. For instance, an early crop of spinach or peas can be followed by beans, and this in turn can be succeeded by a fall crop of lettuce or turnips. The profit on an acre of ground, managed in this way, will range from $200 to $500, depending on the season and a desirable market. But it will require close attention and back straining labor to garden under "high pressure" six months at a stretch. To attain earliness the gardener has to resort to the use of glass sash and hotbeds. The sash are either three or four feet wide, by six feet long, and three or more sash comprise a bed. This should slope to the south, and be banked up and protected from cold and fierce winds. An ideal hotbed in this latitude is built up with some four inches of forest leaves at the bottom, eight inches of fresh manure (thoroughly tramped and soaked with water) and six inches rich soil at the top for a seed bed. Sash should come within six to twelve inches of soil. Plant your cabbage, tomato or other seeds some ninety days before you expect to set in open ground, in rows 4 to 6 inches apart. As soon as your plants develop four to six leaves, transplant to another bed, setting them about three inches apart. Watch changes in weather, giving plants air (raising sash) on warm days. Always keep your sash down at night, and when a cold wave threatens use heavy mat covers over the glass. Harrow your ground several times at intervals before transplanting, as it retains moisture better and gives a fine, mellow bed for plants. The writer uses Paris green and tobacco dust as a means of combatting insect foes in the garden. He also finds a chicken-proof fence around the garden as necessary to success as good seed.

Murfreesboro, Tenn.

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H. C. I. S.

MRS. H. W. RUNYON.

A sister says we should start the ball rolling about the H. C. I. S. and all write and tell what improvements we have made. Our place is named "Cherry Hill Poultry Farm." Of course we have only a modest beginning, but will grow larger as we gain more knowledge of the poultry business. Our place is named for two immense wild cherry trees at the brow of the hill, about one hundred feet from the house. Our dollar was invested in a barrel of lime, which gave fences and outbuildings a new, clean look, and apple and other fruit trees were also whitewashed. We also put out two hundred Cuthbert raspberry plants, one hundred strawberry plants, and bought three dollars' worth of apple trees to replace the ones that had died in our young orchard. We have a nice orchard, 6 years old, of apples, early and late, plums, cherries, peaches, etc., grapes, raspberries, gooseberries and other small fruit. Last year I put up 437 quarts of fruit from our own trees and bushes. I wish, Mrs. Melville, you could have some of my beautiful pæonies; the flowers are very large this year, and several of the single stalks have eight buds apiece. My flowers are all hardy perennials, as I have lots of work to do and they are the best kind for busy people. I raise a few old favorites from seed, as cosmos, petunias, portulaca and marigolds. My hardy plants are five varieties of Sweet William, chrysanthemum, four varieties, gentlemen's ruffle, iris, blue bells, jasmine, golden glow, pæonies, three kinds, an old-fashioned yellow lily and bleeding heart, all of which, when once started, only require an annual mulching with well rotted cow manure. I am a rose crank, too, and my dream is to have hundreds of them in my garden to cut and give away to my heart's content. I have a few very beautiful ten roses and two monthlies. Our woods and fields are full of beautiful wild flowers all spring and summer. We found some dandelion in bloom on the 14th of February, this year. The children keep the house filled with the fragrance of them all the time, and have their own wild flower bed. We have them on the table all the time. If parents would only teach the children the beautiful side of life on the farm, as well as practical work, and provide plenty of good literature (good, mind you, not silly detective stories and ten-cents-a-year magazines) there would not be so many discontented young people on the farm. I agree entirely with the Editress on cruelty to horses, or any other dumb brute for that matter. It makes my very blood boil to see anyone whipping a horse or maltreating one. Well, I suppose this is more of a letter than was called for, but as I don't have time to write often, and have lots to say, I'll improve the opportunity.

Catlettsburg, Ky.

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May 14, 1902.

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In the Kitchen.

B. P. Wagner, LaBelle, Mo., sends some recipes as follows:

FRUIT SALAD.—Slice into the dish you wish to serve the salad in, three bananas and three oranges. Over them pour the heated juice of one lemon, in which a tablespoonful of gelatine has been dissolved. Serve when cool.

PREPARED MUSTARD.—Slice three medium sized onions and soak them in one pint of strong cider vinegar for twelve hours; then boil five minutes. Thoroughly mix three tablespoonfuls of mustard in enough cold vinegar to make a paste; pour the hot vinegar into this. Stir well while pouring and add a pinch of salt and a teaspoonful of sugar. Put into large mouthed bottles and cork. This will keep indefinitely and improves with age.

RHUBARB PIE.—One cup of rhubarb, cut fine. Stew until tender, then take the yolk of one egg and stir in while hot. To this add two tablespoonfuls of flour and a cup of sugar stirred together. Cook until it thickens. After taking this off put in one teaspoonful of lemon extract. Beat the white of the egg and put on top and you have a pie fit for a king.

[This is our recipe all but the lemon and the frosting. We want a "lid" to our pie—a nice, short, unhealthful one—and the tart of the rhubarb is, to our palate, better than that of lemon.—ED.]

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Women's Clubs.

No, there is nothing new to say on the subject, perhaps, but now that the club year is ended in many localities, we want to review a little and see whether a club is worth while. Our own—"The Twentieth Century"—for instance, has done a good deal of study and work and yet no one feels in the least that she has been overburdened. To have received the greatest possible amount of good each should have thoroughly prepared herself on every topic; but we are all busy women and time for study is not always possible; but each did her assigned part and then had the pleasure and profit of listening to all the rest. And in every case it was equal to listening to a lecture for which one usually pays from twenty-five to fifty cents, for the papers and oral biographies were really fine. We have laughed with the humorist; caught glimpses of the inner lives of authors of prose and poetry; traced the old songs to their origins; had works of fiction placed in pen pictures before us; listened to songs and declamations by old as well as young; discussed news, housekeeping, parliamentary rules; had an Indian day where relics, anecdotes and the like made pleasing variation. We have turned over nearly $30 to the public library and "agitated" town improvement, kindness to the helpless, and last, but not least, had happy social meetings that did us good in every way. We are in touch with women all over the State and United States through our club work, and we are resting now to begin again in the autumn with renewed vigor. And now we ask, "Is a woman's club worth while?" Are the husbands and children any better for the physical relaxation and mental stimulus of the wife and mother? Is the home any better? Is society any better? Is the world any better? Is two hours once in two weeks too much time to waste (?) in keeping abreast of the times? It is all right for a man to be well read and studious. He never gets too old to learn. Nobody says his place is in the field or behind the counter or here or there. He can attend to business, attend clubs and lodges, take up any new profession or occupation. But a woman! Once she is a wife, mother and housekeeper—need this be the end? We write this now to urge upon our sisters near and far the importance of this club work, and advise them to be planning all summer to the end that in the autumn an organization of some sort be perfected. Fit your society to your needs and your neighborhood, but have one. Not only do the mothers need it, but the older girls who are done with school. Let them keep from rust in this way, but don't let this cut the mother and grandmother off from going—and all take a part. V. C. M.

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Among the Flowers.

MARY L. GARNER.

The inquiry of the H. C. sister for a "pretty, hardy vine, suitable to grow over a sunny porch," came too late for an answer in time for her to procure one this season, but I may be able to give her a helpful suggestion to put into practice the coming year. I find honeysuckle a satisfactory hardy vine, and if given the proper support, will, in two years, completely screen a porch. The honeysuckle belongs to the species of the genus Lonicera, many kinds being named, among them the L. Caprifolium, a fragrant kind, and L. Sempervirens, the red-flowered, trumpet-shaped sort, both kinds of which I have. The red-flowered kind is in bloom by May first, or before if the weather is at all favorable, and remains in bloom until late autumn. The fragrant kind is a profuse bloomer, but does not bloom before the first of June. The blossoms have a delicious fragrance, are of a pure white when first blown, turning later to a yellow. The foliage is delicate enough to be graceful, and if the vine is given a rich soil will throw out innumerable tendrils, soon covering the lattice. It does not sprout up very much around the parent vine, but is easily propagated by "layering." The green aphis sometimes attacks this vine, but it is soon put to rout by a deluge of soapsuds. And then it is a delight to watch the ruby-throated humming bird hovering about the blossoms for his share of the nectar contained in the trumpet-shaped flowers. I suppose, having "spent a dollar" towards beautifying the home, I am a member of the H. C. I. S. But I just wanted to slip in and find some quiet corner where I could hear from all the rest without saying anything myself. Our farm is named "Lynndale," because of so many linden trees which are so delightfully fragrant in July. The special dollar was spent for house plants and two climbers, the Crimson and White Ramblers. And now let some more of the H. C's. "speak out in meetin."

Boone Co., Ind.

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Practical Things Worth Knowing.

S. J. H.

When the young mother wrote asking me to send a few recipes to Mrs. Melville's page, I realized how earnest she was in desiring to be economical, and save her pretty ginghams also, so I will answer at once before I forget it, for with dozens of inquiries at this time of the year it is impossible to personally answer all. I feel, though, that this recipe will do many others good. In regard to washing dark ginghams, they should never have soap rubbed directly upon them. It is best to wash them in a warm suds of rain water, adding enough Gold Dust washing powder to make a good light suds, and if it is feared they will fade it is safer to soak them for half an hour in salted water. Then wash them in a thin starch water and hang on the line, wrong side out, to avoid making a gloss. They can be washed beautifully time after time, until worn out, by this method, and never fade.

To remove tar, or wheel grease, rub lard thoroughly into the spot and let it lie until the tar is loosened before it is put in the suds; then wash spots until they are clean.

* * * * * * * *

A young girl who reads "every word of Mrs. Melville's pages" writes me to send a recipe which will, perhaps, assist her in making her pin money and stated allowance go further. She kindly says I have helped her very much before, in telling her of plans and devices for renovating and saving. This is very encouraging, for I really desire to help all young people who wish to economize. The one item of cleaning your kid gloves amounts to quite a good deal. To clean them, first darn every small rent and rip, and use cotton thread the color of your gloves, as silk thread slips and breaks so. It will not hold the seams together. The professional cleaners all use the colored cotton threads. Put them on your hands and wash carefully and rinse in clean gasoline and dry them on your hands. Your ribbons can also be cleaned in gasoline, and wrap them while wet, tightly around a smooth bottle and set out in the open air. Be careful to keep away from the fire when using gasoline. To wash your pretty laces, put them on a bottle and make a suds of Gold Dust washing powder and drop the bottle in the warm suds, moving it about and around until ... soil is gone; then take out and rinse in clear warm water and dry in the sun; then unroll and lay away in tissue paper. They will look like new laces.

The little white ties and collars can be done up beautifully white by washing in pure soapsuds and rain water. Add a pinch of borax to whiten, and iron while damp, and no starch will be needed.

Georgetown, Ky.

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Correspondence.

Illinois reader writes: Dear sisters, I just feel like taking a seat and having a chat with you. We do so much enjoy the P. F. When husband comes in the first thing is, "Has the P. F. come?" We get many good ideas from its pages. We live on a farm, with a large orchard on one side of the house and green meadows on the other side, and a fine woods pasture back of it. Sometimes, when I feel like getting out, I go with my little eight-year-old daughter to the pasture and gather flowers. I do so love the beautiful flowers. I am never too busy to go to the garden and see the flowers. I like to work with them. We have a large garden, and around each bed is a border of flowers. I do not work much out of doors, as I am somewhat of an invalid; been in poor health for five years, but I do what I can. I do almost all the house work except washing. I care for the chickens and tend the milk and butter. Well, dear Mrs. Eaton, as I see you are canning vegetables, would it please you to give some of your recipes? I would like to know how to can green beans and shelled peas. I always try to put up everything I can for winter use. Or anyone who can give information in canning, please write. I believe it is our duty to help one another. I like to make rugs and quilts and fancy work, and will tell you sometime about some of them. I guess Mrs. Melville will think I had better keep it to myself after such scribbling as this, so I will rest a while and read the P. F. some more, while dinner is boiling.

[You are very welcome; come again.—ED.]

Alicia E. Storm, Plessis, N. Y., writes: There is one lamentable fact becoming more and more plainly seen as the years pass, and that is the spirit of unneighborliness among farmers, especially noticeable among the women. Many seldom go out unless they are going off a few miles to visit relatives, or to town, or lodge meeting, and they who can go more are apt to be neglectful of their neighbors. The time has been when the good wives seldom missed making each other a visit once a year, where now they hardly enter each other's homes. Is this progression? In many communities there are farms occupied by tenants who sometimes remain a term of years. Often the women are left to make their own company. The men meet, and, leaning on the fence, talk over the crops or their dairying interests, but the woman, who has moved into a strange neighborhood, is not the person to make the first advances towards friendliness, and unless some good woman calls, she may see very many lonely, homesick hours, longing for the companionship of someone. I have in mind an instance of neglect which has rankled ever since its occurrence. But a few miles from my home is an ideal neighborhood (or it should be so), for it is in a fertile country. The farms, for the greater part, are owned and occupied by the sons or grandsons of the old settlers, so all know each other well and used to enjoy visiting each other. In one of these substantial homes was a wife and mother, the centre of that home, the one to whom daughter and sons, grown up and gone out into the world, gave homage, but she was a frail little woman, and after having seen her sons on the way to an honorable life, began to give out. Disease laid its hand upon her, and each time the children came home—and they came often, for they were good children and loved their parents and the homecoming—they could see that mother was paler. Well, for months the dear little woman was a prisoner in her home. Old neighbors and friends came to see her, all but one, who had lived within a mile for thirty years. No trouble had come up to sever the friendship, and she passed the house on her way to church, to lodge, to Ladies' Aid meetings, etc., very often. "She was too busy," engrossed with work for which she must go out and away. She left the suffering one almost within her gates until the patient invalid was almost beyond recognizing friends; but after that, and at the funeral, she did all she could. Brought flowers and was the managing woman. How vain was it all then. One hour a month of her friendly calls, one flower when the other could have enjoyed it, would have brightened the tedious hours, as the invalid appreciated every kind act. Is not this a lesson for us to do the work nearest us, leaving ambitions out of the question?

Mrs. Ida Richards, Prairie Grove, Ark., writes: Dear Mrs. Melville: I have had so many letters from persons asking for information about this part of Arkansas that I have not time to answer them all, and will be very glad if you will publish this one. I will try to tell all I know that will be of interest. In the first place, we have good health, which is certainly of prime importance. There is an abundance of good water, and the climate is nice. We do not have hard winters, as the coldest weather lasts only a short time. We raise wheat, corn, oats, and all standard vegetables, and this is called "The land of the big red apple." It is an ideal fruit country. Some years the orchards bring over a hundred dollars to the acre, and there is hardly ever a real failure. There are several thousand acres of strawberries about here, and a great many blackberries. We have quite a good many peaches, and fine ones, and, in fact, nearly any fruit does well. There are almost no negroes, hardly any mosquitoes and almost no malaria. None of the land is high, considering that it nearly all raises such fine fruit. The country is mountainous, and some of it very beautiful. It is certainly an easy matter to make a living here, and about the only bad thing about the country is the condition of the roads. They are very good in places, but not as good generally as they should be. Some parts of the country are deficient in the way of schools, but at Fayetteville, 12 miles from here, there is a very fine one, the Arkansas Industrial University. Both boys and girls attend, and it is very cheap. The fact that one has gone through that school is considered proof that he has a good education. It is almost impossible to get help in the house, or out of it, and this is a great drawback. We have some fine hogs, and cows, and a world of chickens and eggs. There are a great many churches, all through the country. The prevailing disease is typhoid fever, but it is not often fatal. It is certainly a good country in which to make a living with little effort, judging by the people here. I have told about all I know, and now a few words to yourself. For about three years I have been a reader of the P. F., and my most welcome visitor is the H. C. pages. We think the P. F. the best paper of its kind we ever read, and we have had several others. I am afraid you will find this a tiresome letter, so will close with best wishes to yourself and the P. F.

[Indeed, we find it very interesting and beg you will come again.—ED.]

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Youth's Parliament.

A SONG OF SPRING.

MAIE WEST.
(Aged 9 years.)

The buds are coming out,
The flowers will soon be seen;
The leaves upon the trees
Now show a tint of green.

The birds are here again,
And singing in the trees;
They are singing to the children
Among the pretty leaves.

Among the leaves they soon will hide
Each cunning little nest,
And happy by her little ones
The mother bird will rest.

And soon the pretty butterflies
Will rest upon the flowers,
And, like the birds and children,
Play through the summer hours.

Danville, Pa.

Everet L. Piper, Rosalia, Kan., writes: I will write you a few lines for the first time. The P. F. has been a welcome visitor at our home for a long time. I am a little boy 12 years old. I am helping papa to farm. We run two teams. We live one-half mile from a small town named Rosalia, where there is a skimming station. Papa and I milk 7 cows. I go to the station with milk every week day morning. It is one mile to our school house. I am in the fifth grade. I have one little sister 8 years old, in the fourth grade. We love to go to school. I will send you a few subscribers for the P. F. for the rest of the year. If this don't reach the waste basket I will write again sometime.

[Well, you see it did not reach the waste basket, so your promise to come again is binding.—ED.]

Zella Fulton, Waterloo, Ind., writes: It has not been long since I wrote to the P. F., but I will write again. I am a member of the Band of Mercy. I like to read the letters from the other members. I am attending the town school, which will soon be out, then I will be at my home, which is about one mile from town. When I am at home I like to help care for the fowls. We have about one hundred hens, fifteen cows, four calves, five horses and thirty pigs. Would like to correspond with girls of my own age—15 years.

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Fighting the Flies.—There have been numerous preparations for keeping flies off stock put on the market, some good, some bad and some indifferent. The best preparation of the kind we know of is "Shoo-Fly," made by the Shoo-Fly Mfg. Co., 1005 Fairmount Ave., Philadelphia. It is a sure preventive, is lasting, and on account of its staying powers is the most economical preparation made. It has been tried and endorsed by Mr. Geo. T. Pettit, Editor of "Mistakes, Failures and Successes," and "Farm Implement Annex" Departments of P. F. Write to the above address for circulars and mention the P. F.

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Insist on getting The Buckskin Brand made of real rubber.
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Hear about it. Free catalog "JJ" on request.
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Topic No. 579, July 4.—*On What Crop Does the Farmyard Manure Pay You Best, and How do You Manage It?*

Topic No. 580, July 11.—*If a Man Has a Farm paid for and Land is Cheap Around Him, Should he Buy More Land or Invest His Savings in the Farther Improvement of What he Has?*

Topic No. 581, July 18.—*Is It Best in the Central West to let Clover run two Years or Only one? Will it Improve the Soil More in two Years Than in one?*

Topic No. 582, July 25.—*How do You Make Cider and Cider Vinegar, and How do You Keep Cider Sweet?*

Topic No. 583, Aug. 1.—*Can Farming be Successfully Done in the South Without the Use of Commercial Fertilizers?*

Topic No. 584, Aug. 8.—*How Have You Succeeded Best in Exterminating Prairie Dogs?*

Topic No. 577—Have You Ever Grown Irish Potatoes Under Straw? If so Tell us How You Succeeded and How You Planted Them and When.

S. H. Mann, R 2, Evansville, Ill.—Growing Irish potatoes under straw is the general practice here, as straw is plentiful and the work of "strawing potatoes" is not more than thorough cultivation would be and it can usually be done at a time when other work is not pressing. We plant as early as the ground will work into satisfactory condition, and pay no attention to the phase of the moon. We lay off ground into rows with our one-horse plow, about 16 inches apart and drop seed by hand 10 to 12 inches in the row, then cover by throwing two furrows together over them, leaving ground in a succession of small ridges. The seed shipped here from Iowa and other Northern States is best, and we cut into pieces of two or three eyes each. About a week or ten days after planting, or when sprouts begin to push through the ground, we haul straw and cover to the depth of twelve or fourteen inches, being careful to shake up until all wet or caked bunches are open enough so the sprouts may get through. The object being to cover the ground so deep that moisture will be retained and weeds smothered down. To one who never strawed potatoes this would seem like slow business, but a few loads of straw will cover quite a large space, and when done requires no further attention. We find that the results thus obtained readily justify the means used. However, potatoes are not so extensively grown here as in some localities, and our opinion is that where large fields of this crop are grown, wider planting and cultivation would be the more practical way of doing the work.

C. S. Looney, Cowan, Tenn.—I think I have some experience on this topic, of value to persons who have never tried the plan, as I have grown and seen them grown in two seasons of opposite extremes. In 1900, which was the rainiest season ever seen in this section by the oldest people, a neighbor had a patch planted under straw and the yield was simply fine and the potatoes large. And as the straw was kept in a perfectly wet condition all the growing season it seems there would be no risk from wet weather reducing the crop. In 1901 I planted under straw, the season was comparatively dry, and I made a good yield. But in 1902, which was exactly the opposite of 1900, being the driest on record, I had my potatoes under straw again and made a fair yield, while some planted on better land and given good culture scarcely made seed. The Early Triumph made a few (where not under straw), but the Burbank (being later, I suppose) did not actually make seed, although the vines were good. I also saw some specimens shown in this section a few years ago, grown under straw, that were fine, which the grower claimed made 400 bushels per acre while the part of the patch not mulched made a very small yield (have forgotten just what, but was nothing compared to the 400 bu.). I have mine mulched this season again, and they are as nice as any I have seen not mulched, and much better than some. From the above results I am of the opinion that where anyone has straw and only raises a home supply of not more than an acre, the mulch is the very plan. Some of the advantages are, you can plant small corners that are too inconvenient to cultivate with a horse, and when the mulch is on you have finished cultivating, and from experience, no matter how dry, you are certain of a fair yield. And the cultivating (mulch) can all be done when work is not so pressing and you are not bothered in the busy season to stop and cultivate the potatoes. I plant just as soon in the spring as the ground gets dry enough to work and put the land in good fix, then lay off rows about 2½ to 3 feet, and when you plant them put another row right between these and plant and cover all just any way so they are covered. We try and get ours just far enough apart so we can run a small bull tongue furrow on each side of every row to cover them, but one man plants then and covers every other row with plow, then the row he put between he covered with a hoe, as the rows were so close a plow could not be used. You see you have about twice the amount of seed planted to the acreage as when you plant for plow cultivation. I do not think they should be planted very deep, as the straw acts as a part of covering. When you have them planted just drive onto them and begin at one side of patch and place your straw about a foot deep if it is loose and dry, but if wet shake it up and do not put on as much. The potatoes will come through loose straw all right, but if it is straw that has been tramped by stock, and put on in lumps, the potatoes can't come through, and you will have a bad stand. When digging time comes just rake the straw back and you can pick a good portion of them up without digging, and they will be the nicest, cleanest potatoes you ever raised.

Mrs. Maria Muller, Cardiff, Ala. — Some years ago I planted one pound of potatoes from a Northern seedsman for the purpose of raising seed from a fall planting. The potatoes were cut and planted in 26 hills 18 inches apart in the row. The land had been moderately enriched with hog manure the year before in the fall, and was now spaded deeply. Hills were scooped out and the potatoes planted and covered lightly. After they came up and before the weeds started, I covered the row with pine straw to a depth of 6 or 8 inches. They were never cultivated but were kept clear of bugs. They grew strongly for three months through hot and dry weather, and when they were dug the latter part of June there were 75 pounds of nice, large and smooth potatoes. Last spring our early potatoes (we plant only early sorts, though growing a second late crop) were planted in furrows as usual, and the furrows were filled with straw, grass, crushed corn stalks, etc., and enough of the soil put back to form a slight ridge. They were cultivated three or four times till tops covered the ground and the soil was level, and though the potato crop here generally failed by reason of dry weather, these made a fair crop.

I. S. Winfree, Subletts, Va.—My experience with potatoes under straw has been very satisfactory. The difficulty is in getting straw enough, as our grain crops in this tobacco section are small. The crop is usually better under straw and the bugs do not seem to trouble them. I have now two plats, one in the garden uncovered, and one in the field where grain was threshed. Those in the garden have had a great many bugs on them, while those in the field have had hardly any. We plant early in March, opening furrows 4 to 6 inches deep by going twice in a furrow, drop the potatoes and fill the furrow with tobacco stalks, and cover with a plow, making the land as near level as possible. As the potatoes are coming through we run a rake over the whole lot and cover with straw liberally six to eight inches deep, after settling. The tobacco stalks rot by June and furnish a manure rich in potash for the potatoes. This is all the manure we use, as the land is fairly fertile. The potatoes grow near the surface and are easily gotten out. In 1901 uncovered potatoes were a failure from drought, while covered ones were fine. Plow the straw under after digging and you can plant the same land in succession year after year with an increase. I always use the straw when there is enough left over. I have used forest leaves and pine tags, but they are not as good as straw, as they sometimes blow off and are expensive to gather and haul. Never cover just after planting, as some do, but wait until the potatoes are coming up. Then put a heavy rake on them and you are ready for the straw. [A weeder would be better.—ED.] I am a new subscriber and am sure that if I follow your teachings I will be benefited. We are in a tobacco country and all the farmers are poor, and will ever be so as long as they make Tobacco King, and buy corn, meat and horse feed, as many do.

F. A. Crabtree, Effna, Va.—I have grown potatoes under straw and have succeeded well, especially in a dry season, and the potatoes were large and smooth. I plow the land deep and early to get the advantage of the March freezing. May 1st to 10th I harrow the land well, mark out furrows and cut the potatoes in quarters, lengthwise, using only large potatoes. Drop them 10 to 12 inches in the row, and throw the furrow back on them. I then cover 4 or 5 inches with rotten straw. If some manure in the straw so much the better.

J. B. Ford, Belfast, N. Y.—Many years ago I planted potatoes under straw, dropping the seed on a meadow about the first of June and covered with damp straw. Did not cut them. They came up all right, but the season was too dry, and the potatoes were small. At digging time we found the potatoes on the dead sod very clean but did not consider it a success. Perhaps they might have done better in a wet season.

Mrs. A. A. Watkins, Manson, N. C.—The potatoes we intend to cover with straw are planted in January. The land is well prepared and made fine, and the seed planted a foot apart each way. Cover two inches with a compost of earth and hog manure and then with wheat straw a foot deep, adding more when it settles. Keep the chickens away from it. The potatoes grow in the straw on top the ground. Have never seen this done on a large scale, but every one should have a small piece for early use, as they grow in heaps when everything is favorable.

M. L. Jordan, Woodford, O.—We plow the ground and fit it extra well and drop the potatoes on the surface in straight rows, and cover with a foot of straw. In the fall we roll the straw off and pick up the potatoes, and the land can then be put in wheat. This is a good way to grow potatoes. But do not do as one man did. When the potatoes were ripe, he wanted to get them off the ground in a hurry to sow wheat. He was told that if he tedded the straw he could burn it if he let it dry. He did it. But when he went for the potatoes he found them roasted. So just roll the straw off and take up the potatoes and prepare the land for the wheat.

W. C. Graham, Cedar Mills, O. — Have grown potatoes successfully in this way. Prepared the land in the usual way after manuring it well. Cover thinly with soil and then a foot deep with straw. We grew at the rate of over 200 bushels per acre in this way. It is a good way to utilize old straw, and to save labor. When straw is removed the potatoes are on top of the ground.

B. C. Grant, Corunna, Mich.—I had a little experience in growing potatoes under straw. Prepared the land in the usual way, covered the potatoes slightly, and covered them with straw 6 inches thick. The potatoes came up spindling, did not grow large, were watery and not as good as those planted in the usual way.

A. J. Umholtz, Tum, Ark.—Some of the best potatoes and the largest yields I ever helped raise were grown under straw. When there is plenty of straw or damaged hay there is no better way to grow potatoes, especially in a dry season. In wet seasons they may get too wet. Prepare the land and plant just as you would for cultivating, but cover them shallow. The rows can be but 2 feet apart. Cover so that the straw will be 10 to 12 inches deep when settled. Two-thirds as deep if old hay is used. I have often seen it too thin, so that weeds came up. But I cannot recall a single instance where the potatoes failed to come through a thick cover. It may be well, where the potatoes are planted very early, not to put the straw on till they are up. To dig them remove the straw to one side of a few rows and pick them up, as they all lie just under the straw. Then move straw to those rows dug. I do not know that it saves labor, but makes a sure crop.

H. S. Lowery, Kewanna, Ind.—Formerly on Illinois prairies, when straw was very plentiful, it would be threshed on the unbroken sod, and commonly hauled out in bunches and burned or left to rot. One year I planted pieces of potatoes on the unbroken sod and covered with a good forkful of the old unrotted straw to each hill. In the fall I had only to turn over each bunch of straw and find fine, clean, white potatoes, as though they had been washed, and on the top of the ground.

John D. Smith, Mackinaw, Ill.—Growing potatoes in straw or chaff will do very well in a dry season, but not so well in a wet season, unless the soil is very light. When I cover potatoes with straw I merely work the ground with a cultivating harrow. I then plant the potatoes in rows and cover very lightly with soil and then cover thickly with unrotted straw. The only work done is to pull whatever weeds come up through the straw. When digging time comes the straw is raked off, the potatoes gathered with little labor, and are unusually nice and clean and in better market condition than when grown in soil. In dry seasons there is danger that fire may injure them and in wet seasons the potatoes may rot.

William H. Wheeler, Greenleaf, Ore.—Last year I manured a piece of gravelly creek bed, and plowed it the best I could with the number of stones in the ground. I planted in April "Mortgage Lifter" potatoes in rows 3 feet apart and 18 inches in the rows and covered them 6 inches deep with damaged hay. The potato tops came through flourishing, and so did the grass seed, but stirring the hay caused the grass to die. The roots of the potatoes went in the gravel but the potatoes formed between the hay and gravel. They were smooth, clean and handsome, and easily dug by pushing the straw aside with a fork. The yield was not large, but much larger than it would have been otherwise on the same land. It is a very good plan where there is waste straw and helps to get humus into the ground.

W. A. Stamper, Girard, Ill.—I have succeeded and failed with potatoes in straw. I planted potatoes, covered with earth and then with straw as soon as planted, and failed. Then I allowed the potatoes to come up so that they could be seen from end to end of the row and then covered them with straw 12 inches deep and got the largest crop I ever dug, the potatoes being all on top or near the top of the ground. In a wet season the plan will fail, but not in a dry climate.

J. B. Taylor, Price, Md. — I manured the land for potatoes broadcast in March. If we have not manure we prepare the land early, mark out rows 3 feet apart, and sow acid phosphate and wood ashes in the rows and mix well with soil. Plant potatoes about first of April and cover them with two furrows. We then cover with straw 18 inches deep, and this is all that is done until digging time. Then the straw is raked off in windrows and the potatoes plowed out. This is a good plan to grow potatoes for family use if you have plenty of straw.

A. G. Higgins, Bellwood, N. C.—I have grown Irish potatoes in straw or pine needles. Plant on well drained land and prepare the land by deep plowing in February or March. Make rows 2 feet apart and plant 1 foot apart in the rows. Fill row nearly full with well rotted manure and an average of 300 pounds of commercial fertilizer to the acre, not less than 10 per cent. potash if the land is sandy. Cover the potatoes about 3 inches by running a furrow on each side. Then cover with pine needles, or straw, at least 4 inches, before the weeds start. I have grown good potatoes in this way but prefer to cultivate them about eight weeks, working them every week rapidly, as level as possible and shallow.

Simon Baumgartner, Pierce City, Mo.—I always mulch my potatoes of the late varieties as they do not do well cultivated through the summer, while the early ones are done growing before the hot days come. I plant in early March and harrow them two or three times after planting, plowing them once after they are up 4 or 6 inches and then cover them with wheat straw, as we have plenty of this. Cover about 5 inches deep and use dry straw, as wet straw may smother the vines. This cover keeps the ground moist when the potatoes most need moisture.

James H. Helms, Centreville, Ind.—I have succeeded with potatoes in straw two seasons and have failed with them several times. When I succeeded I plowed and prepared the land in April, ran out furrows and dropped the potatoes, but did not put any soil on them, covering them 15 inches deep with wheat straw and planted good sized, whole potatoes. When I took the straw off in the fall they were a sight which made me feel good, for there lay the nicest, cleanest, brightest potatoes, and I have counted 28 good sized potatoes in one hill. When I planted on hard ground and covered the potatoes with straw I failed every time. The land should be put in just as good order as if one were going to cultivate the crop.

Unland Bros., Arlington, Neb.—In 1901 we raised 150 bushels of large, smooth, uniform potatoes under straw. The season was very dry and other potatoes wer almost an entire failure. We sold the crop for $1.25 per bushel. They were planted on thin land with shallow furrow and covered 2 or 3 inches deep. They were harrowed until they appeared above ground and we then covered 6 inches deep with straw. We harvested with forks, taking away the straw and forking out the potatoes, which grew just at the surface of the ground. The next year we planted half an acre in this way, but it was a wet season and they did not do so well. On account of the great amount of straw it takes and the general low price of potatoes it does not pay to use this method extensively, though we would raise enough for family use, as they are a sure crop, wet or dry, and bugs will not molest them.

Chas. S. Anderson, Jennings, La.—The fall crop of Irish potatoes, which is planted in August here, is always grown under straw and many farmers also mulch their spring crop with straw, especially if planted late. Some plant the potatoes as usual and then mulch, while others prepare the ground very fine and drop the potatoes thickly on top the ground and cover with straw. If the season is wet enough this produces fine potatoes. I raise early potatoes for market and do not think it pays to mulch them, as the ground needs the sun to warm it up early in the season, but for the fall crop mulching is almost indispensable. The potatoes are planted and covered quite deeply, without cutting, having been sun-burned or sprouted before planting. Then cover deeply with straw at once. They will come up through a heavy mulch, but do not try covering after they have come up. These fall potatoes make the best seed for spring planting. I have tried them side by side with Northern seed and find our own the best every time.

I. H. Brayshaw, Hallidayboro, Ill. — Irish potatoes are more of a success here when grown under straw than otherwise. We plant rather shallow in rows as close as we can cover well, putting two light furrows to the row. This makes them about 18 inches apart. We plant as early as the ground can be worked, usually about April 10th to 20th; later this spring, because of rain. At any time after planting until the plants are 3 or 4 inches high, cover with straw to a depth of 8 inches. This is quite a task, but once done nothing further is needed until digging time unless the bugs come, and spraying will fix them. There will be no weeds in the field and the straw holds the moisture, so essential to a good potato crop. In digging we find it best to throw the straw back with forks, as many potatoes will be found on top of the ground which are injured by burning.

SUMMARY.

Our friends have pretty well discussed the question and there is little for the Editor to add. The plan is a good one in the South for potatoes planted in the late fall, say in December, for early family use. But for the ordinary market planting of early potatoes in the South, we would not use the method, not only because of the impracticability of covering a large area, but because the crop will not be as early, for we have plenty of moisture usually during the time the early crop is grown, from February to June, and the chief thing needed at that time is warmth of the sun. While flat, shallow culture is usually best, there is no doubt that for the early crop of potatoes in the South hilling is essential to get the benefit of the early sunshine. For the second crop of potatoes from seed of the crop dug in June, the straw mulch comes in very handy for at that time the conservation of moisture and the coolness of the mulch is an important matter. In the section where they are grown wheat straw is not to be had, but there is plenty of pine leaves in the forest, and this material, in our experience, is better than the wheat straw. For the late crop we would prepare the land as usual and then, after greening the potatoes awhile in the sun, would plant in furrows, cover very lightly, and at once put on the pine straw about eight inches deep. These can then be left for digging till convenient after the tops are killed by frost, for the mulch will protect them from any freezing in the Southern Atlantic coast country, till Christmas at least.

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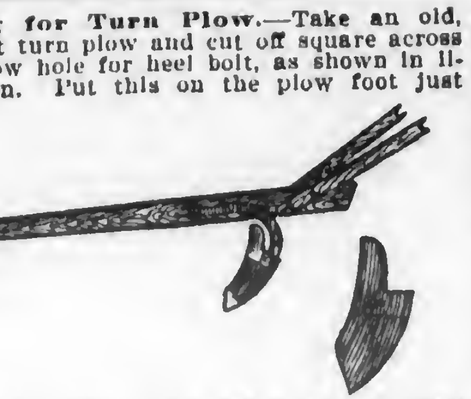
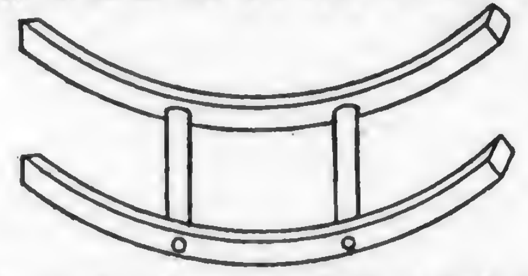
Farm Implement Annex
To The Practical Farmer.

It is the purpose of this department to assist P. F. readers in securing the best implements and machinery for doing their work, and to so adjust, manage and care for same as to get the best possible returns from their use. We invite subscribers to write us fully and freely in regard to farm implements and machinery. Pointers on selecting implements for various kinds of work and soil; on buying, operating and caring for them; their defects, improvements, attachments, adjustments, etc., will be welcome. A cash prize of 50 cents will be paid for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Put at top of each article For "Farm Implement Annex," and send to Geo. T. Pettit, Box 32, Oneida, Kan.

Wing for Turn Plow.—Take an old, worn out turn plow and cut off square across just below hole for heel bolt, as shown in illustration. Put this on the plow foot just above the plow. I am using two of these wings with half shovels. I can throw a higher bed than with a regular turn plow, and it saves paying for something that I have lying around. It will be necessary to use two heel bolts as shown. Try this, farmers, you will be surprised. J. A. SLOAN.
Smitum, Ga.



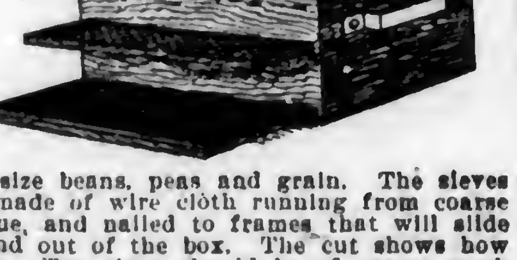
Rock Lifter.—This rock lifter is quickly and easily made of two pieces of hard-wood 2 inches square, 3½ feet long and shaped like the rockers of a rocking chair. Two holes 14 inches apart are bored through each piece to receive the ends of two cross-pieces, each 14 inches long and made of hard-wood also. The rock or boulder to be lifted is rolled onto the lifter with prys or bars. In this way two men can readily lift onto a wagon bottom a rock weighing several hundred pounds. This lifter is useful in carrying colonies of honey bees to and from their winter quarters. It may also be used to advantage in carrying many other things which their weight or shape make it difficult to carry without a device of this kind.
Mannsville, N. Y. GEO. H. ELY.



Driving a Key.—A bevel runner wheel got loose in corn sheller. The key was located between two wheels and a machinist tightened it, but without success. We then had a long punch bent near lower end so it was nearly at a right angle to the upper part. Then placed a bolt on shaft against opposite wheel for elbow of punch to rest on and drove key in till bolt was out of reach, then put in a thicker bolt and were surprised to find how easily the key was sent home to stay. It has never been loose since.

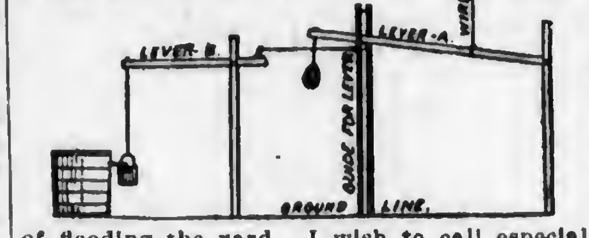
Chain Pump.—I made a great mistake 22 years ago by putting a chain pump in our well, in which it was 16 to 18 feet to the water. It always worked hard and soon the stock was worn so the pump had to be turned fast in order to bring up the water at all, and my wife and smaller children were unable to use it. I then made another mistake by replacing it with another of the same kind. I finally succeeded when I got an iron pump with galvanized pipe and had the cylinder placed near the bottom so the water is lifted instead of being drawn up. It pumps with great ease and I think will outlast both the old ones. GEO. HOSTETLER.
East Lynne, Mo.

Compound Grain Sieve.—There are a great many farmers who do not own a fanning mill, and to these the implement shown in cut will be of great service. It will sort and size beans, peas and grain. The sieves are made of wire cloth running from coarse to fine, and nailed to frames that will slide in and out of the box. The cut shows how made. Top sieve should be of coarse mesh and fastened at dotted lines. Such a sifting box will pay for itself many times in one season by sifting foul seeds and shrunken kernels from seed grain. CHAS J. MOORE.
Morrisville, Vt.



Adjusting the Harness.—A great many farmers make an error by not having their harness fitted to the horse, but try to fit the horse to the harness. I have known them to buy harness and put them on just as they came from the store or shop, when perhaps they were too small or too large. When properly fitted the horse will work with much the same comfort that you do when wearing a snug fitting shoe; or with discomfort as you do when wearing an ill fitting shoe. We often see teams with galls, sore necks or shoulders, caused by wearing ill fitting harness. The harness should be kept tidy and should be oiled at least twice a year. They should be kept out of the wet as much as possible. This cannot always be done, but they should at least be wiped dry after coming in from a wet drive, and not crowded onto a small harness pin when wet, or when you come to use them again you will find them all out of shape. THOMAS PATTON.
Mosgrove, Pa.

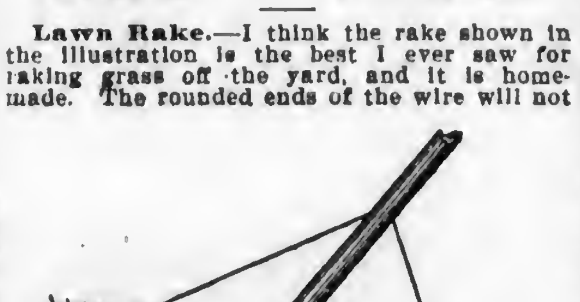
Windmill Regulator. — The device shown herewith attends to throwing the windmill out of gear, hence it may be left in gear all night or any time without danger of flooding the yard. I wish to call especial attention to the fact that lever B is placed at right angles to lever A. When the tank is full, water is conveyed by the overflow pipe into the pail, or other receptacle, suspended from lever B, causing this lever to fall and throw out the pin that supports lever A. Being weighted, this lever falls in turn and throws the mill out. The longer you make lever A the less weight will be required to throw the mill out.
Ostrander, Minn. ANTON M. HANSON.



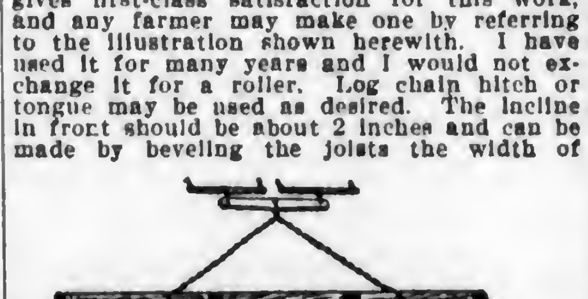
My Disk Sharpener.—It is not more than right and proper to have all tools sharpened before using, thus enabling one to use them to the best possible advantage. There is a saving on horse flesh, on time and also on the man's temper, which might otherwise run over its rightful limit, thus crippling his moral welfare. This spring I purchased a disk sharpener from the Lancaster Manufacturing Co., and it did its work to perfection. The job was finished in less than two hours, the tool cutting the disks as a jack knife whittles wood. This tool almost paid for itself the first time used. It is good for all time to come by renewing knife
Eagle Grove, Ia. E. B. KIRKEBERG.

Post Hole Auger. — Having had one year's experience with the "Iwan" post hole auger, will say that it is a very superior tool, working to good advantage in all kinds of ground that is free of stone. Would not like to return to the spade. The only improvement that I can suggest would be to have the jaws hinged to facilitate cleaning.
Waterloo, Ia. J. D. FINNERTY.

Lawn Rake.—I think the rake shown in the illustration is the best I ever saw for raking grass off the yard, and it is home-made. The rounded ends of the wire will not catch in the ground, and the teeth are so much closer than those of an ordinary rake that it takes the grass all off. Have used ours for years for this purpose.
McConnellsville, O. MRS. J. L. GLENN.



Substitute for the Roller.—Many of us do not have a roller and so an implement is needed with which to level and pulverize the soil after sowing the seed. The planker gives first-class satisfaction for this work, and any farmer may make one by referring to the illustration shown herewith. I have used it for many years and I would not exchange it for a roller. Log chain hitch or tongue may be used as desired. The incline in front should be about 2 inches and can be made by beveling the joists the width of front plank, which should be about 9 inches wide and 2 inches thick; almost any timber may be used. If hard-wood is used the plank need be only 1½ inches thick. On stony land you can put on stones and dump at fence or other convenient place. The planker greatly facilitates reaping or mowing the ground afterwards, preventing dull knives.
West Berne, N. Y. GEO. H. TOWNSEND.



Good Corn Knife.—Cut a blade out of an old cross-cut saw blade and fasten it in a wood handle. You can make it hang better than any you can buy, also make it lighter if you choose. DANA WALDRON.
Wolcot, N. Y.

◆

A Reminder of Home.—Mr. John F. Warwick, the American traveler and writer, states in a recent article that he had a severe attack of nostalgia or homesickness during his recent trip over the Trans-Siberian railway. He had traveled for days without seeing a familiar face or hearing a familiar tongue, and his spirits were at a low ebb. The train having stopped at a small water-tank station, with an unpronounceable name, Mr. Warwick stepped out of his car to get a breath of fresh air, and in the field at the side of the track he saw a sight that at once dispelled his homesick feeling. It was a Deering Grain Binder painted in the American national colors, and at the sight of this reminder of home and country, Warwick was himself again and retained his restored good spirits for the balance of the journey.

Our Barter Column.

Advertisements will be received for this column from our yearly subscribers only. Only advertisements of farms for sale, articles for exchange, help wanted, positions wanted, etc., will be received. Charge 1 cent per word for each insertion. No advertisements of less than 25 words or more than 10 agate lines will be admitted to the column. This column will appear each alternate week.

☞**Special Notice.** The farms advertised in this column must be the farm of the advertiser, and not placed in his hands by another person for sale or exchange. No advertisements from Real Estate Agents will be accepted for this column; they must go in our regular advertising columns at regular rates.

116 Acre well improved farm for sale, 18 miles from city of Houston; stock included. $2250. It will pay you to investigate. A. H. BEAZLEY, Westfield, Tex.

Wanted. Two young men to work on farm for balance of season and will insure you work as long as you want to stay. Wages, $25.00 a month and board. CHAS. E. HICKS, Hope, N. Dak.

Farm for Sale. 58 acres, 28 in cultivation. New two-story house, other necessary buildings. 4½ miles from Thayer, in Oregon Co., Mo. A bargain. Address H. ARNDT, Hardy, Ark.

Farm For Sale. 114 acres, in Queen Anne Co., Md. 7 room house; 8 out buildings; 3 stores; school and church in sight. Grows wheat, corn, clover and all kinds of small fruit. 18 acres wood; near three railroads. Price, $4,000, easy terms. Write to owner, JAS. MACDONALD, Ridgely, Caroline Co., Md.

Farm for Sale, near Asheville, in "Land of the Sky;" 650 acres, about 150 cleared. New grist and saw mill, new house; fronts on French Broad River; R. R. station on place. Fine apple country; summer resort district. Price, $15,000, stock and implements included. CHAS. F. BALDWIN, Blantyre, N. C.

Farm of 49 acres for sale or rent in best trucking section of Maryland; two-story house 5 rooms and outbuildings; abundance of fruit; apples, pears, peaches, plums, cherries, grapes. 3 miles from incorporated town, both church and school in sight. Price, $700. If rented, $60 for 1903; terms easy. For particulars address LOUIS M. CARR, Williamsburg, Maryland.

Farm For Sale. 160 acres bottom land, 60 acres farmed, 100 acres pasture, living spring, 350 inches water right, ditch covers place, open range, 5 room house, stable, wagon shed, steer feed lots, feeding shed, 14 acres potatoes, 30 acres alfalfa and clover, cash market, 6 miles from R. R., telephone connections. Reason for sale ill health. Great bargain at $2500. Further particulars address FRANK S. WALTERS, Twin Bridges, Mont.

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SHORT CUTS.

BY PRACTICAL FARMER SUBS.

All other trades have resorted to "Short Cuts." To be successful farmers must resort to them, too. In this column we will publish all actual labor saving short cuts made by the farmer on the farm and the housewife in the home. Write and tell us of any labor saving tool you have made, of any method of management or manner of using implements to save time, labor and money, or increase their efficiency. Even the smallest things may be useful and valuable. Hints and helps in the household are always welcome. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Write on postal cards and make articles short. All errors will be corrected by the editor. Address all communications under this head to T. Greiner, La Salle, N. Y.

Attachment to Spike-Tooth Harrow.—We use a device for leveling the ground, to be attached to a spike-tooth harrow. Take a 2x4 oak as long as the harrow is wide and place it under the harrow beams one-third of the way back from the hitch. Find the centre of the piece. Bore a hole midway from centre to end on each side. Tie wire in hole at each end, bring wire up to hitch and fasten. By so doing you overcome the annoyance of the drag running in the ground in turning, as it will float around in turning. When turned it will come around straight. This device does grand work, as it knocks the high bumps down ahead of the teeth, thereby letting the rear teeth do better work. It is necessary in hard ground to put weight on harrow to hold the float down. For harrowing with the spring tooth harrow ahead of the drill, we take a pole 6 inches in diameter and as long as the harrow is wide, strip the bark off, then take wire and wire it fast to rear cross beam of harrow. We let it float 6 inches behind points of rear teeth. By this method we get the ground leveled down as we harrow, and many clods are made fine. It is also a great help to the man driving the drill, as the harrow makes furrows about like the drill. JNO. M. PETRIE.

Pleasant Valley, Va.

To Secure a Button. — The following way was told me years ago by a bachelor friend, which might have been one reason he took a wife so late in life. He was a kind son and brother, and prosperous, three short cuts for a woman matrimonially inclined to observe when there is more than one to choose, which would be a great aid with the following information to keep a family of children together these loose times. Sew the button in the right spot, hem and fasten, sew it on again and repeat the stitches on the under side. Repeated several times would certainly be a guarantee that only a herculean effort could sever you from your belongings in the midst of business, and the more violent exertions necessary to the performance of some of the self culture feats now so popular. A woman with deft fingers for repairs and in the use of pins, also needles, so that they will not interfere with the ease of the flesh, is not often disturbed by so small a matter as a loose or missing button, but much of some men's happiness hinges upon this very item of domestic arrangements, excepting, perhaps, the first year of his wedded bliss, when, as the old song has it,

"The world is full of beauty,
When the heart is full of love."

In olden times the Scripture forbade his being disturbed by even war that he might cheer the wife of his choice one year. After that she must be reasonable and return the favor by patient continuance in well doing, especially should an unfortunate button fall off at an inopportune moment, when one has no time to think before speaking.

Renewing Permanent Pastures.—When taking possession of my present home there was no grass in the yard. With the aid of a small boy I sodded a narrow strip around the door and windows. It was cut as soon as it grew tall and the green seed scattered about. Result is a yard full of grass, which is often admired by friends. Every few weeks I chop the weeds and all but the blue grass down. If green tomato seeds sprout sooner why not the grass seed also? Notice how quickly nature re-seeds and covers every available spot. Cut out what is not wanted, the remainder will secure a bit of cultivation and the moisture consumed by the destroyed growth. Fertilizers are well under some circumstances, but much can be done without anything but common sense use of nature's provisions at hand. LIZZIE ARNOLD.

Butler, Ky.

Wind Break.—I find a wind break a real good thing at the wood pile when working on windy days in winter or at butchering time. Make a square frame, using two pieces of timber 2x5 inches 4½ feet long and two pieces of fence board same length. Spike together, forming a square frame. Now make a mortise 2x4 inches one-half the length of each of the 2x5 pieces to receive two posts of same size timber 6 feet long, which pieces are to have 1-inch holes 6 inches from top for pins to hang canvas frame on. Make the break of two widths of carpet sewed together, have two small poles same length, say 6 or 8 feet long sewed to edges of carpet as supports and to hang on pins. This canvas frame can be easily taken down and put in dry when not in use. This is worth ten times its cost. WM. R. VANLEAR.

Cross Keys, Va.

Harvesting Beans.—For quantities not to exceed an acre or two, the simplest way to harvest beans, says the Am. Agriculturist, is to pull them by hand after they are thoroughly ripe and throw them in small piles in every third row, so as to leave room to drive between with team and wagon; they should be pulled in the forenoon or on cloudy days to prevent shelling. For harvesting large quantities, a simple device for doing it with horses can be made as follows: Get a blacksmith to bind and fix an old plowshare so as to fasten it on one of the inside beams of a cultivator in such a manner that the sharp corner will project in about 12 inches and slope down a little. With this device you can now drive astride the row and guide this cutter so as to run it under the bean vines and cut the roots, leaving the vines loose but not disturbing them enough to shell the beans. It is an easy matter to take a common four-tined fork and go along and throw the beans in piles to dry as aforesaid. SUBSCRIBER.

Towel Roller.—A very convenient towel roller is made as follows: Take a cylindrical piece of hard-wood; a piece of broken fork or shovel handle is excellent. Trim the ends with a shoulder to be fitted into holes in two blocks. These blocks should be about 2x4 inches on the face, thick enough at top to receive the pins, and thin enough at bottom to be screwed to wall. Bore a hole in one block somewhat larger than the pin, and cut a slit in the other block from the top. To put up the towel, first pass the rod through it, then stick the shorter pin in the hole in the one block and drop the other end into the other block. You can then always find the "dry place" in the towel. Use three yards crash to a towel, sew together at the ends and they will hang 4½ feet from the roller. WALDO E. HOFFMAN.

R 1, Sigourney, Ia.

Good Coffee.—Use water as soon as it boils. Long-continued boiling causes it to become flat in taste.

To Clean Windows.—If you will try borax instead of soap for cleaning windows you will find it much more satisfactory. Polish with chamois or with soft paper. MRS. D. HARRIMAN.

Box 142, Newark, O.

Insects in Gardens.—In some seasons the vegetables in many gardens are almost annihilated by worms and bugs. Fall plowing just before frost sets in, and strewing the ground with salt in the spring before making the garden, are sometimes remedies against these powerful depredators. Set an onion in a hill of cucumbers, squashes, melons, etc., and it will effectually banish the bugs. For the cut worm nothing is better than sweetened bran and Paris green mixed and left out at night where the worms are likely to attack. Where the poison may not be left exposed, saltpetre water (one tablespoonful saltpetre to the gallon of water) put around the plants at night will prevent the cut worm attacks. S. R. HAWK.

Indian Springs, Tenn.

Digging up the Poultry Yard.—Every person that ever tried it knows what a job it is to spade up the poultry yard when it gets filthy. If you have a small yard you cannot turn with a plow, just turn a pig in it for a day or two and it will do the rest.

Lawndale, N. C. J. D. S. CARPENTER.

Handy Hen's Nest.—Make a platform 18 inches wide, 1 foot length for each nest; place a board 2 inches wide at right angles with the bottom 1 foot from back; now place divisions from this board to back 6 inches in front, 12 inches in back, giving the top a slant of 6 inches. Have a division every 12 inches. Now make top the same width as platform (or a little wider to make up for slant of top). This gives you a projection both at top and bottom, of 6 inches. Tack an old gunny sack or any other cloth, to the top and allow it to fall low enough so it will cover platform. This will leave a little hall along in front of the nests about 6 inches square. Leave openings at each end of this where the hen may enter. With very little trouble you may shut up any one of the nests if you wish to set a hen in any one of them. I have found that the hens prefer this nest to any one I have ever tried. They will not scratch in the nest as it is too dark, and for the same reason will not eat the eggs, nor will the hens sit on the edge of the nest and get it all full of dirt. L. H. NORRIS.

West Rush, N. Y.

Cutting Rafters. — Many farmers are puzzled when doing their own carpenter work to get the length and miters of braces and rafters. This method is exact and easy as eating pie. Take your 2x4 (or any size) that you use for rafters. Snap a line from one end to the other on the 4-inch side, in the middle. Assume inches on the square to be feet on the building, and eighths to be inches. Take the rise on the tongue and the run on the blade. We will assume that the rise is 10 feet and the run 13 feet. Put your pattern in front of you and stand near the end to your right. Put the figures 10 and 13 on the line, with the heel of square to you. Mark from 13 towards heel for the miter on the plate. Mark slightly where 10 on the tongue crosses the line. Move square to the left until 13 on the blade corresponds to the mark made before at 10. Do this 12 times and mark plainly along the tongue the last time for the plumb cut. If your marking has been exact your rafter will fit exactly right. MARION P. WHEELER.

Greenleaf, Ore.

Hand Garden Marker.—A good hand marker for marking out rows in garden, is made by taking a board 3 inches wide and 9 feet long. Take three strips 3 inches wide and 12 inches long and nail them any desidable width apart on the strip, that is 9 feet long (we cultivate with a horse so we put the strips about 3 feet apart) then nail a handle on. The handle on our marker is 10 feet long and 3 inches wide. Mark out your first three rows, then go back where you commenced, put the outside marker in the last row you marked out, let it follow in the mark all the way through. Keep right on in the same way until you get your garden all marked out, and if you get the first three rows straight all the other rows will be, and I think it adds greatly to the appearance of a garden to have the rows straight.

Black Ash, Pa. FRANK E. WALTER.

Butter Making Without Ice. — The Farm Journal remarks that the manufacture of very fine butter in warm weather without ice is a difficult matter. Many a determined farmer's wife succeeds in getting the cream cool enough to churn by hanging the cream can in the well. With a good cellar, a little care and labor, a very good article may be made without ice. All decaying boards and everything which might contaminate the air should be removed from cellar and walls made sweet and clean by a coat of whitewash. The evening previous to churning set the cream jar in a tub of cold water in cellar. Wet a woolen blanket in cold water and lay over the top; this keeps out the warm air. Cool the churn well and churn the first thing in the morning. This task must not be postponed until late in the day when there is no ice in sight.

Handy Wagon Box.—Geo. W. Brown, in Farm Journal, gives the following bill of material for a complete handy wagon box: Two sills 2x6x12 feet. Four pieces 2x4x3¼ feet for cross sleepers. Eight clips made from 7-16 iron rod 9 inches in the clear, with threads cut and nuts fitted to fasten cross sleepers to under side of sills. Thirty-six feet of unmatched inch boards for floor. Eight socket clips purchased from hardware dealer or made from wagon tire iron. These clips are 1½x3 inches on inside, and are bolted to outside of sills to receive the 1½x3 standards on sideboards. Eight standards 1½x3x18 inches. Two sideboards 1x12x12 feet long. Standards are bolted to these boards and boards are cleated at each end to receive end gates, which completes a bottom bed 18 inches high and 12 feet long, and will hold 22 bushels of ear corn. By adding a 10-inch sideboard we can haul 35 bushels of corn. It will take a box of 50 carriage bolts ⅜x3¼ inch, and three pounds of 8-penny nails to complete the box. Material will cost, here, $7 dressed ready to make up, including hardware and extra sideboard, or $10.50 made up and painted. We call this the "knock down box," because it can be taken apart to remove from the wagon and stored in the dry handily when not in use.

New York. H. W. E.

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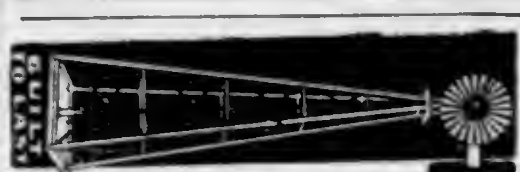

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(Stove No. 464.)

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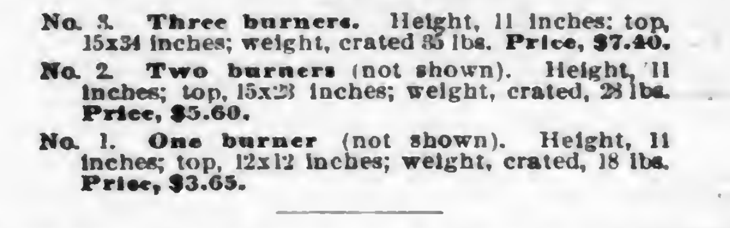

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No. 3. **Three burners.** Height, 11 inches; top, 15x34 inches; weight, crated 35 lbs. **Price, $7.40.**

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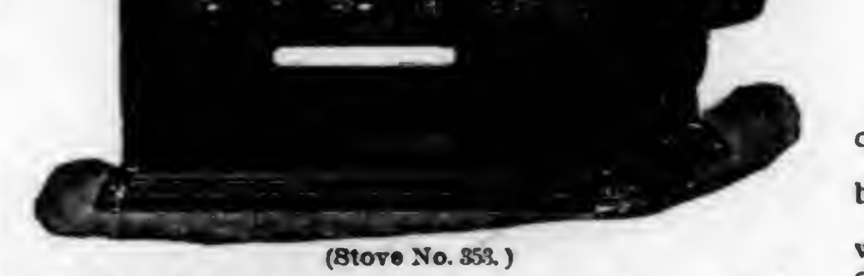
T. B. Terry.

Hudson, O., April 4, 1903.



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It's a beauty, isn't it? Never had one before? Well, just sit down and take a good look, then another. Get the hang of it. It's simple, but you can make a simple thing hard by too much hurry. Then the oven is a bit different from the old range kind. That had the heat over and maybe under it, too, but here it's all around and everything is hot but those **cold handles**. Take your time, use a little patience, the best oil and follow the instruction card, and with a P. F. Blue-Flame Wickless you've a winning outfit.

(Stove No. 453.)

No. 453. **Three burners.** Height, 28 inches; top 18¼x35 inches; shelf, 7x22 inches; weight, crated, 75 lbs. **Price, $10.75.**

No. 452. **Two burners** (not shown). Height, 28 inches; top, 18¼x26 inches; shelf, 7x22 inches; weight, crated, 60 lbs. **Price, $9.00.**

A Few Pointers.

Your stove should sit level. See that it does.

Yellow streaks in flame. Shift chimney until it rests central and even on the burner.

Give the draught a chance. Run a small, stiff brush between perforated tubes and clean off **all** dirt and scales.

The burners won't be damaged if you once-in-a-while remove the lighting ring and wipe them off. A cloth over the end of a knife will do the trick.

Use only the best oil and keep an eye on the automatic valve, as the spring may become clogged from lint in some inferior oils.

You Get a Stove with "Satisfaction Guaranteed" when you buy one from

THE FARMER CO., Market and 18th Sts., Philadelphia, Pa.

Our prices are for stoves delivered charges prepaid east of the Rockies. West add $2.00 for extra freight charges.

Good Pay for Little Work. How to Get These Stoves Without Money.

We will give stove No. 465 with oven for a club of 50 yearly subscriptions to the P. F. at 50 cents each.
Stove No. 464 with oven for a club of 45 yearly subscriptions at 50 cents each.
Stove No. 453 without oven for a club of 40 yearly subscriptions at 50 cents each.
Your choice of stoves Nos. 353 or 452 without oven for a club of 35 yearly subscriptions at 50 cts. each.
Stove No. 3 without oven for a club of 30 yearly subscriptions at 50 cents each.
Stove No. 2 without oven for a club of 25 yearly subscriptions at 50 cents each.
Stove No. 1 without oven for a club of 20 yearly subscriptions at 50 cents each.

Our Premium Department.

We monopolize this department this week with oil stoves. Nothing could be more timely or seasonable. The hot weather suggests appliances for keeping cool, and we know nothing in which the farmer's housewife will be more interested than in kitchen utensils which will mitigate the summer nineties as much as possible.

These Wickless Blue-Fame stoves are the best made, and that is the reason we offer them through this department to our P. F. friends. We have twelve different sizes and styles, and from these a selection can be made which will fill the bill under any circumstances.

For the very large family we recommend the four-burner stove No. 465. It will do the cooking for the largest family, and can be used to advantage the year around, as suggested by Mr. Terry. For the ordinary family we consider the three-burner, No. 464, the best. But the illustrations and descriptions give our friends a good idea of the different sizes and styles of stoves, and the prices will show what you can best afford. These prices include freight prepaid to any railroad station east of the Rocky Mountains. $2.00 additional to any point west of the Mountains.

Our Mr. Terry, or rather his wife, has had years of experience with oil cook stoves, and wouldn't be without one. In fact, uses it summer and winter because she finds it is in every way better than a coal or wood range for the best results. The item of coolness in hot weather, of course, is a big and unapproachable advantage, but even in cold weather these stoves render so much better service, are so much more easier to manage, and such great labor savers, that Mrs. Terry ties to one the year around. With good kerosene they are as safe as a wood or coal stove, and with use the common apprehension of danger from them passes away, because experience demonstrates that with the care which every prudent and careful housewife should exercise, they are perfectly safe.

Another point about these stoves is that we guarantee satisfaction. Follow the directions which accompany each stove: use good oil, and with a little patience till you get used to it, a Wickless oil stove will be the most satisfactory thing you ever used in the kitchen.

Order early! Just at this time there is a rush from all over for these stoves, and consequently the factory is pushed to its utmost limit to keep pace with the demands. Your stove should have been ordered in the early spring: but it is not too late if you send in your order at once.

Postal Card Correspondence.

This department is intended for short communications only. We award, each week, a prize of 25 cents for each postal card printed in this department. Communications must be written on postal cards; must come from paid-up yearly subscribers; must be short and pointed, and those preferred which give prices of produce, news of the weather, progress of farm work, crops, etc.

Eleven miles north of Murphysboro, the county seat of Jackson Co., Ill. Principal crops are winter wheat, corn, oats, cow peas, timothy and clover. Apples, peaches and plums a failure on account of late freeze. Present prospect for wheat, oats and timothy very poor. Good prospect for corn crop; pastures very good. Hogs and beef cattle scarce; horses and mules in good demand at strong prices. Wheat selling at 68c.; corn, 50c.; oats, 40c. per bu.; live hogs, 5 to 6c. per lb.; baled timothy hay, $13 per ton; good milch cows, $30 to $50; good horses and mules, $100 to $150 per head; butter, 15 to 20c. per lb.; eggs, 15c. per doz.; hens, 8c. per lb. Farmers' Union spreading; 2,900 members; 21 locals in Jackson Co.; $1,000 in State treasury; membership more than doubled in the last six months notwithstanding report in these columns from J. H. Brayshaw of Elkville, this county, that Union is dead. Union doing many good things in way of buying clover seed, binder twine, etc., as well as raising clubs for P. F. Next State meeting at Nashville third week in July.
HARDY CREWS.
Vergennes, Ill., June 8, 1903.

We are situated in Napa county, considered a very beautiful spot, about 75 miles from San Francisco. Howell Mountain is fast becoming a noted summer resort. This is a grape fruit growing district largely; some grain, also cattle and poultry. This has been a very dry spring. Grape crop good, also fruit in some places, and others were partially destroyed by frost. Wages on farm $1 per day and board. The weather has been very cold for the time of year; getting warmer now. Hay, $10 to $11; grain, $20 per ton; wood, $4 per cord; new potatoes, 3c.; beef, 8 to 10c. per lb., dressed; eggs, 15c. per doz.; butter, 20 to 25c. per lb.; garden truck high. The climate is excellent. Said to be a splendid place for people with lung trouble. Crops are doing fairly well considering the dry season.
BEATRICE TURNER.
Angwin, Cal., June 3, 1903.

No rain except one very light shower, for six weeks, until today we are having a good one; no danger of a flood, but a steady downfall, making vegetation look up. The outlook for hay is poor as the old fields are all burned up and the new seeded fields will not cut 50 per cent. of an average. Hay, $25 per ton; corn, $1.15; fall potatoes, $1 per bu.; no new ones yet; eggs, 18c. per doz. Corn and potatoes not all planted; oats all sown; early ones on low ground look well. Garden truck poor.
LEE M. WILDER.
Hancock, N. H., June 8, 1903.

Located 5 miles northeast of Sandy Lake. Land is rolling and is well adapted to grain and stock raising. Have telephone, rural free delivery and fairly good roads. The winter wheat looks fine. Prices: Horses, $150 to $200; cows: $30 to $60 each; hogs, scarce and high; butter, 15c. per lb.; eggs, 15c. per doz.; wheat, 75c.; oats, 45c.; corn, 60c. per bu.; hay, $10 per ton. Corn about all planted and some buckwheat ground plowed. Owing to the dry weather the hay crop will be very light. Hired help is very scarce.
HARVEY PEDEN.
R 1, Utica, Pa., June 8, 1903.

In the Ohio Valley, 85 miles below Louisville, Ky., county of Meade. After quite a long dry spell (6 weeks) the welcome rain has given our soil a good soaking. It is now a question who will win, the corn or the weeds. Wheat harvest, to hold the farmer out for a few days, it's hustle or get left. As we have no local buyers our market for hogs and cattle is the Louisville market, with freight off. Horses, from $130 down to $65 for plugs; eggs, 12c. per doz.; butter, 15c. per lb.; stock hogs scarce; good sow and pigs, $20 to $25. A poor showing for late apples; early crop good; berries looking fine.
H. C. BOONE.
Wolf Creek, Ky., June 8, 1903.

The farmers are behind on account of dry weather; rain has appeared at last. Wheat damaged by rust; cotton not all up yet; guess we will have a stand now. Prices: Wheat, 75c.; corn, 60c. per bu.; cotton, 11c.; pork, 8c.; chickens, 12c.; bacon, 13 to 15c.; butter, 20c. per lb.; eggs, 15c. per doz. Gardens are looking well. A good prospect for grapes; fruit damaged by late frost. Harvest will be here in a few days.
OSCAR ANDREWS.
Manndale, N. C., June 8, 1903.

We are all well in this section of the Sunny South. Fine weather but getting dry again. Crops late and farmers busy. No storms here. We have ripe peaches and plenty Irish potatoes, and beef, mutton, and milk and butter from our fine, spontaneous grasses; will soon have apples, Japan plums, melons, blackberries, with garden truck in plenty. How does this compare with the North. I would like to tell those who wish homes in a desirable section to come and see this county and State before deciding upon a location for farming; health good; cheap lands; good laws and plenty of schools and churches, with our State out of debt and a new million dollar capitol building dedicated June 3rd; also many new railroads are being built. So, homeseekers, don't be afraid of "Dixie." All are friendly now; come and see us. Hurrah for T. B. Terry and his "Health Hints," and best wishes to the whole P. F. family.
D. A. SHAW.
Brandon, Miss., June 6, 1903.

Located in Sedgwick Co., 15 miles north of Wichita, the county seat, 3½ miles east and 1 mile south of Sedgwick; 10 miles south of Newton, the county seat of Harvey county. This is in the great corn belt of Kansas. Some wheat is raised here, but is greatly damaged by the Hessian fly and chinch bug. Prices: Land, $35 to $50 per acre; corn, 35c.; oats, 27c.; wheat, 55 to 60c.; millet, 50 to 60c.; cane the same; Kafir corn, 60c.; potatoes, $1.20; alfalfa seed, $7 to $8 per bu.; butter, 16 to 21c.; ducks, 9c.; spring chickens, 18c.; hens, 8½c.; turkeys, 12c.; geese, 5½c. per lb.; horses, $40 to $250; cows, $30 to $50 per head; hogs, $5.90 per cwt.; hay, prairie, $3.50 per ton; farm help, $20 per month and board and horse kept; house help, $2.50 to $3 per week. Season is very backward; have had so much rain that little work has been done since crops were planted. Had hard freeze for the season, also frost the 25th of April, which damaged fruit and gardens to a great extent. Alfalfa is nearly ready to cut for the first time.
JOHN JONES.
R 1, Sedgwick, Kan., June 6, 1903.

Located in Northern New York; Ticonderoga is our nearest railroad station, 7 miles distant. Season thus far very dry and cold for this time of year; 6 weeks without a drop of rain; crops of all kinds are suffering severely. Prices are as follows: Potatoes, 75c.; corn, 65c.; wheat, $1; oats, 50c. per bu.; butter, 18 to 20c. per lb.; eggs, 15c. per doz. Farmers are feeling very blue over the dry weather.
S. R. PHILLIPS.
Box 65, Chilson, N. Y., June 9, 1903.

Located 50 miles southwest of Washington, in the northeastern part of Virginia. Season good at present. Farmers are plowing for corn yet, as it was too dry earlier. Wheat is short, but may fill well, since the drought is past. Clover is very short, but timothy is improving since rains. Land is worth from $15 to $25 per acre, according to distance from railroad. Most of the farmers have large farms. Land is thin but level and easy to cultivate. Some is too level to drain well. Farmers use disk harrows, subsoilers and most of the modern machinery on their farms. Some sow peas, alfalfa and millet, besides their regular crops. This is a fine location for trucking and dairying, as we have good shipping facilities and it is near Washington. Corn and hay are the principal crops.
M. W. MAIDEN.
Midland, Va., June 9, 1903.

Located 18 miles southeast of Norfolk, in Norfolk county. Country is level and fertile, except where it has been run down. Corn is worth 56c.; Black cow peas, 90c. to $1; Black Eye, $1.25; stock peas or soy beans, $1.15 per bu.; eggs, 18c. per doz.; good butter, 30c. per lb. Potatoes are being dug; a good yield; are worth $2 (home market). What little wheat and oats that was planted is in fine condition; almost ready to cut; peaches, plums, apples and cherries are ripe. Corn is the chief crop grown here; it is looking fine. There are also some potatoes raised here. Plenty of rain this spring. Labor (Negro) is cheap and hands are plenty. Prospects so far are for a good crop of everything. Cotton is up and growing fine.
DWIGHT L. MILLER.
Hearing, Va., June 10, 1903.

Farmers are generally up with their work. Crops seem to be doing well considering the long drought, which continued from April 20th to May 28th. Wheat which was thought to be ruined about the first of May, now shows up 75 per cent of a crop. We have had good rains. Prices are about as follows: Horses, $50 to $125; mules, $50 to $150; milch cows, $25 to $40 each; corn, 70c.; wheat, 90c. per bu.; flour, 2½c.; meat, 12 to 15c.; hens, 7c.; young chickens, 12½c. per lb.; eggs, 11c. per doz.
C. M. HUNT.
Gambles Store, N. C., June 6, 1903.

Located in town of Mendon, near foot of Mt. Killington. The season has been very dry, practically no rain having fallen since April 1st. Farmers very discouraged over the prospect of a hay crop; many farmers report having to plant their potatoes over, the seed having dried up in the ground so as to break like chips. Some farmers in this vicinity have turned their stock into the meadows, there being no feed in the pastures. Corn not more than half up. There are no forest fires very near here. Prices as follows: Butter, 20c. per lb.; eggs, 17c. per doz.; fowls, 12½c. per lb., live weight; corn, $1.10 per cwt.; hay, $18 to $20 per ton and scarce at that; cows cheap and no sale for them; horses from $75 to $200. Deer are numerous in this locality, large herds being seen daily. Rural free delivery established here last year. We enjoy the P. F. very much.
MRS. WM. PACKARD.
Mendon, Vt., June 8, 1903.

Aroostook Co. is badly in need of rain. Farmers have their crops nearly all in, but the ground being so very dry, things cannot do well. Forest fires are raging fearfully. Snow left us early, but weather has been cold, with scarcely any rain this spring. Wages for men and women are high and help scarce; potatoes, $1 to $1.50 per bbl.; butter, 20c.; cheese, 18c.; poultry, 16c. per lb.; eggs, 14c. per doz.; pigs four weeks old sell for $2.50 to $3; cows, $40 to $50 per head; horses bring a good price. Farmers are using more machinery every year. Cream separators are coming to the front here.
MRS. IDA NASON.
Presque Isle, Me., June 8, 1903.

Beauty's Blood Deep

How untrue the old adage "Beauty's Skin Deep." How many women of beautiful features marred by impure blood try in vain to get a pure complexion by doctoring the skin. The quickest, surest, only way to beauty is to cleanse the blood.

"I have been taking Cascarets for pimples and have been greatly benefited." —Miss Gertrude Grant, Cambridge, Mass.

"I am very well pleased with Cascarets. They are fine for the complexion." —Miss Catherine C. Coffman, S. English, Ia.

"Cascarets will clear the complexion of boils, pimples and blackheads caused by impure blood."—A. E. Griffin, M. D., Stubblefield, Texas.

"Cascarets have done a great deal of good for me and for all our family." —Miss Florence Cook, Webster City, Ia.

"I must add my testimonial to your valuable medicine Cascarets for stomach trouble." —Irene Ackerman (famous singer), 20 West Fifteenth Street, New York.

"I was suffering with sick headaches a great deal, but after taking a box of Cascarets, am entirely cured."—Miss Clara Stimmel, 229 So. Sandusky Street, Delaware Ohio.

"Cascarets did me a world of good. My liver was in bad condition for some time and one box cured me." —Miss Mabel Allen, Clare, Michigan.

How many, many young women are anaemic, pale, sickly-looking, perhaps with pimples on face and neck, owing to poor, unhealthy blood. Perhaps womanhood is approaching, that serious time of life when irregularities are liable to break down a constitution. The first rule for purifying and enriching the blood is to keep the bowels free and natural, gently but positively, without nervous shock, and Cascarets Candy Cathartic is the only medicine to do it.

Cascarets Best for the Bowels. All druggists, 10c, 25c, 50c. Never sold in bulk. The genuine tablet stamped C C C. Guaranteed to cure or your money back. Sample and booklet free. Address Sterling Remedy Company, Chicago or New York. 506

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Swan's Standard Roofing Fire- Wind- Waterproof Put on with knife and hammer. Sample free. A. F. Swan Co., 115 Nassau St., New York

Planet Jr. catalogue is free for the asking and tells all about the best line of seed drills, wheel hoes and 1 and 2-horse cultivators on market. Send for it. S. L. Allen & Co., Box T711, Philadelphia.

IRON AGE Book Free describing one and two horse cultivators, Potato Planters, Wheel Hoes, Seed Drills, etc. Bateman Mfg. Co., Box 101, Grenloch, N. J.

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AGENTS WANTED. Big money for workers. No charge for exclusive territory. WONDER PLOW CO., 125 Factory Street, St. Clair, Mich. Write for Catalog and Prices

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CORN BINDER

"Gwaiakowe"
Translation—Corn is king

KING CORN BINDER

In the language of the Indian, after which our great American crop was named, corn is king. The grain value of the corn crop is approximately $1,000,000,000. It is estimated that the stalks and fodder are worth as much more. Think, then, of the amount you can make by saving all of your corn crop.

The McCORMICK corn binder and husker and shredder enables you to save this part of the corn crop that has in past years gone to waste.

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THE KEYSTONE TO SUCCESSFUL FARMING

Published Weekly By
THE FARMER CO.,
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AGRICULTURAL.

SPECIAL NOTE.—Mr. Terry writes exclusively for The Practical Farmer, and for no other paper or magazine. Tell your friends if they want to know what Mr. Terry has to say on agricultural matters every week they must read The Practical Farmer.

Robert's Cows.—Milk Producers' Organization.—We Must Reap as we Sow.

Benj. Sharpless, West Chester, Pa., says he wishes I would tell all about our affairs, how many cows Robert keeps, how much milk they give, price received, etc.; that "two cents a gallon more than last year" does not tell what people want to know. Then the very next letter opened, from L. G. Perry, West Plains, Mo., has the following in it: "Say, brother, why didn't you tell us what breed Robert's heifers are, how many other cows, if any, he milks, and what he gets for milk, that he can pay such wages and lay up money?" Robert now has 14 young grade Holstein cows of their own raising. The sire was full blood and the cows he started with ordinary ones, of mixed blood, such as he could pick up at common prices. A careful record has been kept from the first of the milk given by each cow. Thus he has been able to know which were the best ones, and raise the calves from them and sell off the poorest cows as his heifers came fresh. He is now milking four 2-year-olds, as reported before, which give, on the average, daily, over 30 pounds of milk per head. Then there are six other young cows, three years old and upwards, that are mostly somewhere near at a full flow of milk, and two strippers. There is one 2-year-old not fresh yet, and also one dry cow. The twelve head he is milking and stripping, which include the four 2-year-olds, now give about 45 gallons of milk a day. He ships 40 gallons every day and part of the time 43. Milk is kept out to feed two calves and for the use of two families. A gallon of milk with us is 8½ pounds; that is, a 10-gallon can holds about 85 pounds. During April Robert received 13 cents a gallon. From the first of May to the first of October he is to have 12 cents a gallon. Last summer he got 10 cents a gallon right through, including the month of April, so really he is getting a little more than 2 cents a gallon better than last summer season. Out of prices given above they pay 1½ cents a gallon for freight or 15 cents for a 10-gallon can. The prices named above are for milk delivered in the city. The freight is paid in advance by tickets tied on each can. So they are now getting 10½ cents a gallon after paying freight, or from $4.20 to $4.50 a day for their milk, seven days in a week. The cows coming fresh later will about keep up the supply through the summer, and, if there is less during the winter, the price will be higher. Of course when four 2-year-olds come fresh four cows can be turned off, which brings in some $200, more or less. If cows are not sold there will be heifers to sell. Robert could make a still better showing if his choicest cow had not been killed by lightning last year. And remember, he has not been at work on this line of improvement but six or eight years. Again, milk is not all we sell. Robert received last year for his share of the wheat and apples pretty well towards $200. Do you think $1 a day for labor, with the board added, for seven or eight months, an over heavy expense to come out of such an income? We have 89 acres of land, about 50 being in permanent pasture and 37 under cultivation, in rotation. The cows are getting no grain, practically, now, only a trifle to cause them to come up when called. This is vastly better than dogging them up, or sending anyone after them who is not quiet and gentle with them. Robert has only to call and they will come; in fact, he does not need to ever drive them as he has only to go ahead and they will follow.

Robert gets the same price for milk that others do; no more. But thereby hangs a tale that may be of general interest. For years the milkmen in this vicinity, along lines of roads running into Cleveland, have been trying to organize so they could have something to say about the price of their product. Gradually the system has been perfected until now practically all are included in the working of the organization. This season they fixed their price and got it without any trouble at all, as I understand. They were too strong and their methods too business-like for opposition to avail anything. Heretofore each man went into the city to sell for himself. In one way or another some would fail to get as much as others and perhaps none received as much as they should. A dealer might agree privately to pay one man 10 cents a gallon, say, and arrange with him to go out and report that he sold for 9; you see the effect this would have, if they chose the right man. Dealers could rope in many at the same price. The less said about the honesty of such dealing the better. Of course they term it "sharp practice," and would scorn the idea of being dishonest. Do not infer that there are many men of this kind, but there was an open chance for such work, and an open competition that kept the price producers received pretty much in the hands of the milk dealers in the city. Last spring the producers along each line of road sent in one man to sell the milk for all, at a price fixed in general convention beforehand. The plan seems to have worked perfectly. The dealers were powerless to do anything only to go on taking the milk at the price fixed by the producers and make their prices to consumers accordingly. Now doubtless some may think this organization is approaching the trust and monopoly line on a small scale. It is true that it does prevent local competition in selling that has cut the price in the past. I am happy to be able to say, however, that the price asked and obtained this time is only just and fair all around, owing to higher price of labor, feed, etc. Should the organization compel dealers to pay more than what was right, why there is nothing to hinder other sections from going into the business, or the dealers from getting milk from a long distance, by train load, as they do in New York City. So I think we may call the work of this organization fair and legitimate thus far. At any rate producers have a moral and legal right to ask what they think is fair compensation for their labor. It is vastly different from monopolizing the business of the country in one line, and ruining all small competitors, crushing them out at any cost, and forcing the public to pay the price fixed by the trust, or go without, a price that pays fabulous profits to the monopoly. Yes, I think this organization is all right and may we soon have more of them, along various lines, to help us get what is fair.

Mr. Perry also says: "Why can't you write something once in a while to wake the masses up to their opportunities, instead of telling them that hard times cannot be helped only by slaving away as hard as they can and taking just what their masters see fit to give them?" Our friend believes in co-operative commonwealth, with families living in communities and all sharing alike, as I understand him. Then all could have nice homes and prosper, he thinks, because (the following is my comment) the more intelligent and thrifty and ambitious would have to share equally with all their shiftless brothers. No, no; this is putting a premium on laziness and a damper on individual thrift, as it seems to me. I do not believe in "abolishing the wage system," and so cannot write in favor of it. Co-operation can be made to help farmers to a certain extent, but let us not try to get away from the great, just law that each individual must reap as he or she sows. The hundreds of thousands of comfortable and commodious farm homes in this country bear testimony to the correctness of the present system. Faithful work has brought its reward and paid the owners well. The same chance is open to all. There is one class, however, for whom we must all be truly sorry; those who meet with misfortune from circumstances beyond their control, those whom sickness, that they cannot prevent, is constantly holding down, for example. Such people deserve our heartfelt sympathy and material aid. But such wonderful inventions and improvements and advances as the world has now could never have come when the man possessing but one talent received the same reward for his labor as the one having ten. There is one consoling thought for you, my dear brother, even if you do think the world is not going quite right. It is that the happiest and most contented people in the world may be, and usually are, those who have a rather modest home and limited amount of property. "Give me neither poverty nor riches," can never be improved on for true prosperity. Farmers, as a class, come very near being in this situation. There are wrongs allowed under our present system that must gradually be righted, as we all know. Great corporations must not be allowed to rob the masses, as they are sometimes doing now. But really the amount they take out of one individual farmer is a small matter by the side of what that farmer can do to help his own condition by faithful, well directed labor. The prosperity of so many farmers under the present condition of affairs shows this. "Slaving" is a pretty strong word to use as necessary to the prosperity of a farmer. The wealthy monopolists and speculators are not our masters, except in a comparatively small way, and gradually these wrongs will be righted when the people get sufficiently aroused. The tide is turning in this direction as any thoughtful person can see. Public sentiment when strong enough, will compel the righting of any wrong. There are many ways in which the farmer can manage to get more nearly what his products are worth. He can hold a crop that will keep, like grain. He can produce fruits and vegetables that are better than the average, and the same with all the stock he raises, etc. There are two ways out of this difficulty; one to make the buyer pay you more; the other to produce your articles cheaper. The latter line the "masters" cannot prevent your following to the utmost. In one way or another most farmers are far from helpless in the way of getting what their products are fairly worth under the law of supply and demand.

Health Hints.—Pure Water and Air.—There is no reason why a farmer cannot have both. The fact is, however, that on many long-occupied farms the drinking water is not pure. Many living on farms have typhoid fever as a result, as well as other diseases. The reason is well known now. They drank germs that came from filth. Of course, had they been perfectly well and hearty in every way these germs could not have harmed them. But alas, we do not all live so as to keep in this condition. So as a precaution against disease we should look after the purity of all drinking water, as well as of the air about our homes. If you have any reason to suspect that the water is not right, boil it all and cool it afterwards. This will be a help, but is not a complete safeguard. No accumulated filth of any kind on the premises that can leach into the drinking water, or foul the air, is the absolutely safe plan. This is what the writer has, and has had for a long time. The cost and trouble is a very small matter. First, we abolished forever the filthy closet vault that we found here, where the leachings from human excrement could go down into the earth, and perhaps eventually find their way to the water in the well. For years we did not dare use the well water at all, but brought all drinking water from a spring some 40 rods away. In the place of the vault we have large galvanized iron pails, on a matched floor under the seat, and dry soil (muck is best) is used daily as a deodorizer and absorbent. The pails are emptied in a nearby field sometimes, in the winter; at other times in the manure in our covered manure shed. We have used the system about 20 years. It is cleanly, healthful and handy.

When we came here the slops from the house were actually thrown right around the well, which is about 18 feet deep and in porous earth. For about twenty years we have used a 50-gallon cask (linseed oil barrel is best) on wheels to put house slops in. I would not risk a slop drain, unless it was trapped and glazed tiles were laid in cement, and the outlet was far from the house or in a running stream. And then I should be afraid of some leak occurring either in tiles or trap. An open drain, or an underground drain that was not surely water-tight, would not be allowed on our place for a day. The slop barrel now stands under the outlet pipe of the kitchen sink. The water is emptied on the grass, in the sunshine, anywhere about the back yard, but only once in a place. This is safe and almost no trouble. The barrel should be scalded out every wash day. We use it nearly the year around, but it must be emptied each night in freezing weather. Deep snow is the only thing that troubles us. Pails can be used then, and they can be used all the time, but it is more trouble. The slop question is forever settled with us and safely settled. There is no leaching of filth into the earth at the barn, as all the stables have cement floors and there is a roof over the manure shed. There is absolutely no filth about our home that can foul air or water. It is as clean around our back doors as it is in front of the house. I mean just what I say. It is clean everywhere. Our well water is pure and safe to drink. It is almost soft. Cistern water is rather better when clean, because it is perfectly soft. I thank God for the ability to control our surroundings and have pure air, and the weakest person on earth may drink freely from our oaken bucket with entire safety. Take no chances, my dear friends, on distance from the well making accumulated filth safe. There is only one perfectly safe plan; that is to never have any.

T. B. Terry.

What is a Rich Soil.

G. S. FRAPS, PH. D.

A soil which is able to produce good crops is considered to be a rich soil. In order to produce good crops, a soil must supply a sufficient quantity of the food required by the plants. That is to say, the plant must be able to obtain enough potash, lime, magnesia, phosphoric acid, iron, sulphur and water from the soil to supply its needs, and if any one of these substances is absent, or not furnished by the soil in sufficient quantity, the soil will not produce good crops.

Few farmers realize that their soils contain very large quantities of these substances. The trouble with a poor soil is, not that it does not contain plant food, but that the plant food in it cannot be taken up by plants. The food is locked up and the plants cannot get it, and suffer accordingly. By far the greater part of the plant food in every soil is in such a form that it cannot be taken up by plants. But every soil is undergoing a continual change, by which small portions of the locked-up plant food is daily made soluble, and in such a form that plants can use it. It is within the power of the farmer to cultivate and manage his farm in such a way that the quantity of plant food released each year will become more and more each year. In such a case his farm is growing "richer." It is also possible (and very often the case) that a farm will be managed in such a way that the agencies which release the locked-up plant food will decrease in power from year to year. In such a case his farm will grow poorer; not because the plant food in the soil is exhausted, but because, by bad management, the farmer no longer has a sufficient supply of plant food in his soil in a form available to plants. The most important agency in releasing the locked-up food in a soil, is a supply of decaying vegetable matter. Decaying vegetable matter forms various acids, which act upon the soil and decompose it. Decaying vegetable matter allows the growth of minute plants, which also act upon the soil and release inert plant food. Humus, as the decayed vegetable matter in soil is called, is very important in a soil for other reasons, but it is certainly very important in aiding to provide plants with a supply of plant food from the soil. A soil containing much humus is always much more fertile than the same soil with little humus, and one reason for this fact is that already stated, namely, that the humus aids in bringing the plant food to such a form that plants can use it.

The most natural method of farming is to utilize as much as possible the plant food already in the soil, and resort to fertilizers only to supplement the deficiencies of the soil.

[We fully endorse what Dr. Fraps has to say in regard to humus. We are too apt to overlook the effect of the humic acid in releasing plant food and to regard humus merely as something that has a good mechanical effect on the soil, may contain nitrogen and will certainly be retentive of moisture. And this retention of moisture gives the acids a chance to act on the inert matter in the soil. As we have said time and again, there is no soil that was formerly productive and is of a good mechanical composition that is ever worn out. Worn out soils, as a rule, mean careless farming more than exhaustion, for a good clay loam is never worn out, and the more you wear it by cultivation the better it will give out its inexhaustible store of food to plants. A soil is rich, then, when it has an abundant store of food ready for plants to take, and it may be very poor with an abundance of plant food that is locked up out of reach of the feeding rootlets.—ED.]

Has Been There.

MRS. F. E. IRVINE.

That's what the Editor of the Experience Pool says of himself. How true that is of the masses. The thought of encouraging some struggling one prompts to this effort. Reduced by adversities, Providence turned our life path. We soon found ourselves, in competition with many others, peddling from door to door in a busy mining town, fruits, vegetables, etc. Quite often "no money," greeted us as we made offer of articles sorely needed in the family. A thought came, "Haven't you something you'd like to trade?" Second-hand things, or even carpet rags.

It was a surprise how this was seized upon. Many quite well-to-do had closets cluttered with surplus, and others had out-grown clothing. We had neighbors, who, like ourselves, were in the "struggle for life," and were glad to work up the carpet rags, piece quilt tops, weave and quilt to help out their family supplies, taking "the things" as pay. It was an easy matter to adjust it with merchants in nearby towns, to furnish carpet chain, take the carpets to sell, and thus pay the weaver at the store, leaving a surplus as our remuneration for the investment. After getting fairly started in this work, the words of the Saviour came with power and approbation: "Gather up the fragments that remain, that nothing be lost." We never took anything as a gift, and did not give them away, but put a price on them in work, thus "helping them to help themselves" and maintain their independence.

Chesapeake, Md.

Cotton Farming vs. Cotton Planting.

PROF. W. F. MASSEY.

During the past fall I have had an opportunity to note the condition of the cotton crop in several of the Southern States. In North Carolina the crop was generally fine, owing to a favorable season and a long, open autumn. The best crops in that State were in the coast country in a section where the land has been highly improved for trucking and strawberry culture, and the level lands are black with humus. There we saw crop after crop that went well over a bale to the acre. Then I rode through Georgia from the north to the Florida line, and also in the eastern part of the State, and noticed the general failure of the crop from drought. From Macon to the Sea Island section the upland cotton was about the poorest I have ever seen. Over in the eastern part of the State, especially in Oconee and the neighboring sections there were better crops, and there is no better evidence of the value of improved farming for cotton. The enterprising business men of the city of Athens some years ago inaugurated a system of offering prizes in gold annually to the farmers of that and the adjoining counties for the best crops of wheat and oats, and every fall they have what is called the Wheat and Oats Fair, lasting one day, in which the prizes are distributed and samples of the crops shown. They get a speaker from abroad to entertain the farmers, and all have a general outing. A year ago Mr. Terry was the speaker, and the past fall the Editor of the P. F. spoke. The season had not been particularly favorable to the crops of small grain, but there was nothing to be ashamed of in the prize yields of over 30 bushels of wheat and oats per acre, and the growing of these crops tending to diversify the farming, has made the farmers better cotton farmers at the same time. There is a general notion among the men who grow cotton in the old planting way, that they cannot afford to grow other crops because the cotton brings more money. We tried to show them that they could not afford not to grow the grain crops, as through them they got the means for developing the productiveness of their land in cotton. What was particularly gratifying was that the farmer who got the highest prizes told the audience that he owed his success to what he had learned from the P. F., and I found that the P. F. has a host of readers in that part of Georgia. It was evident to me that the poor showing of the upland cotton fields from Macon south was due as much to the fact that the humus has been burned out of the land by constant cultivation in a clean crop as it was from the drought. Had these lands been farmed instead of being merely planted with a little fertilizer strewn in the rows, there would have been more humus in the soil, and this would have held the moisture, and the fertilizers, which, under the present conditions did more harm than good, would have been dissolved and used by the crop. If the cotton growers of Georgia ever succeed in the development of their soil for larger crops it must be done through good farming and an entire abandonment of the old practice of planting the same soil year after year and looking to the fertilizer bag to help them out. Literally, as I have very often remarked, gambling on the chances with fertilizers. In no section of the country is there a better opportunity for good farming than on the beautiful, rolling uplands of Georgia from Macon southward, and nowhere did I see less really good farming being done. The old hillside ditches with their lines of grass and weeds, are still around every hill slope. In North Carolina the farmers have largely gotten away from these, and have adopted the broad banks over which cultivation is uninterrupted and no lines of weeds disfigure the fields. In the present condition of the Southern uplands some check of this sort to the water is necessary. But from long observation and experience with these lands we feel that with the proper short rotation, deep breaking and level, shallow cultivation, we could farm any of these lands in a few years without a terrace bank on them. Now, when the deluges come, as they do in the South, the shallow broken soil gets into a creamy state and is certain to slip off the hard, unbroken clay below if not checked. Then the use of the plow, ridging around the hill slopes makes innumerable channels for the water to gather in and gain head enough to break over, while if all was broken deeply in the start there would be more room for the water to sink in the soil, and if the cultivation was as level as possible there would be no places for a head of water to collect, and it would be spread out harmlessly. We know this from experience, for we have worked far steeper red clay lands in the Virginia mountains without a terrace; and, in fact, have cured old gullies by proper plowing and cultivation. But what the Southern cotton farmer needs more than anything else is to realize that in systematic farming he has the true secret for the improvement of his lands. The bull tongue plow is the curse of large sections in the South, for in many places no turning plow is used, and the washing of the land is due as much to the bull tongue as to any other agency. These red clay uplands need deep breaking in the first place. They need forage crops like peas and alfalfa, and plenty of cattle to eat them, so that having fat cattle to sell in winter and spring the cotton farmer may have cash to begin the season with and to keep out of the hands of those who profit by his need of cash. He needs to grow small grain crops in rotation with his peas and thus have humus-making material in soil to aid the humus-making manure the cattle will give him. He needs to realize that in feeding liberally, with the cheaper forms of plant food in phosphate and potash, the pea crop, he is doing more to increase his cotton crop than by applying a little dribble of a complete fertilizer to the cotton. He needs to realize that in his cottonseed meal he has the cheapest source of protein for his cattle ration when judiciously fed in connection with good roughage. He needs to realize that with the great variety of crops he can grow that he can produce pork more cheaply and profitably than the Western farmer, and should no longer be dependent on the West for supplies of meat. In brief, as we have said, if he wants to increase his cotton crop and make cotton most economically, he must farm with a wisely arranged rotation of crops and quit the planting idea forever.

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QUERIES

Answered by the P. F. of Philadelphia.

We shall be glad to answer in this column all questions pertaining to the farm and farm operations which our subscribers send us. Write your questions plainly and as briefly as you can.

Second Crop Potatoes in the South.—C. C. Gettys, Duncan, N. C.—"Please tell at an early date how to treat the seed, prepare land, when and how to plant and grow second crop Irish potatoes. I have caused over 700 new members to come into the P. F family since last July, and I want all of our people to grow this important crop. I am going to plant an acre and want this article more for the benefit of others than myself, as I think that I am pretty well posted on the cultivation of the second crop." If the P F. had more friends like Mr. Gettys we would have an immense subscription list, and the paper could be vastly improved by reason of a great circulation. Therefore we would say to all, go and do likewise and let us not only have the best paper in the country in our line, but the most widely circulated one. The second crop of Irish potatoes, grown from the seed of the early crop has become of great importance in the South. The early crop, ripening in early June, cannot be kept over winter, of course, and for many years the entire South has been dependent, and still is to a great extent, on the potatoes from the North for winter use. The increased production of the second crop, however, is annually demonstrating the entire practicability of the South's raising all the potatoes needed not only for seed, but for table use in winter. It has been so fully demonstrated that the second crop potatoes are the best seed for the spring planting in the South that the market gardener there who plants potatoes from the North is badly behind the times. Various methods have been used in getting a good stand of these potatoes. Formerly my practice was to spread the potatoes as dug in a half shady place outdoors till somewhat greened by the light, and then to cover them with pine straw and keep this cover slightly damp. In the meantime the land was well prepared and fertilized if needed, and as the potatoes showed signs of sprouting they were planted in deep furrows, made by running twice in the furrow with the plow and cleaning out. They were then very lightly covered, and as they grew the earth was worked to them until level and shallow as possible. The planting was done during August, as the potatoes sprouted. At first we avoided any cutting of the potatoes, but we found that those that were accidentally cut always sprouted sooner than the rest, and we then began to cut a small piece from each potato and had a better stand. The chief trouble with this late crop is the frequent prevalence of very dry weather during the time they are growing. A small experiment made last year showed the value of a straw cover, and this season we mean to vary our practice and believe that we will have better success. In the moist and level dark sandy soils of Eastern North Carolina the crop is uniformly successful, because of greater moisture, and single growers there raise from 1,000 to 2,000 bushels annually, many of which are barrelled in winter and sold as "New Bermudas" when the Bermuda crop is coming, the only fraud being that they were not grown in Bermuda, for they are really better than the Bermuda product. Our hills being of a droughty nature, we propose to adopt the following plan: The potatoes to be used for seed will be allowed to get fully ripe before digging. We will then prepare the land thoroughly, run out shallow furrows and plant the potatoes after cutting and cover very shallowly. Then we will at once cover the whole land with six inches of pine leaves or wheat straw, and we feel sure that a better stand and larger crop will be had. On moist low lands the cultivation may be best, but on dry soil we feel sure that the straw cover will be the thing. As we write, we have a letter from Mr. D. F. Miller, of Belleville, Ill., who says that growing potatoes under straw is the general practice there on the great American bottoms, and that the best potatoes that go to the St. Louis market are grown in this way. He says that he is figuring for a crop of 1,000 bushels per acre, and we trust that he may get it. Mr. M. sends us a clipping from a paper giving an address he made at a Farmers' Institute on this subject. In this paper he says that he prepares only what land he can plant in one day, at once, and avoids all trampling of the ground as much as possible. He runs the furrows about three feet apart and three inches deep, preferring a marker with shovels that makes three rows at once, so that the horse will tramp between the rows and not on them. Strong seed that has not had sprouts rubbed off he properly considers best. He cuts the seed to a single eye, which we do not approve, but prefer a large piece. He plants 24 inches apart and covers 4 inches. Straw is then spread 6 inches deep and care taken not to tramp the rows. Weeds are pulled out as they appear and the straw kept clean. We would like to give the whole of Mr. Miller's interesting paper, but space forbids. For the late crop, the early grown seed of the South has the great advantage that it has never been sprouted, and when it grows it is with the strong shoot of the terminal bud on the eye. Potatoes from the North for late planting have inevitably sprouted and had the sprouts rubbed off more than once, and the growth will be from the lateral buds on the eyes and a bunch of weak shoots rather than a strong single stem. With well ripened seed planted in the way we have described, the late crop can be made a complete success and any farmer can grow the crop. Yesterday we took up the last of our fall planted potatoes, which were perfectly ripe the middle of May, and we found that a few potatoes had already started to sprout. Potatoes in this state will make a fully matured crop in the South before freezing weather and will be valuable for table use as well as seed. The great advantage they have for seed is that being dug in December and planted again in February, they never start to sprout until after planting, and the growth is far stronger, and their growth is so vigorous that they resist the spring frosts better than the weaker growth from the Northern seed that has been sprouted in cellars and rubbed off. In using commercial fertilizers for this second crop we propose to put the fertilizer along the rows after planting and covering, knowing that the moisture under the straw will dissolve it and carry it right where the potatoes want it. We will use a fertilizer composed of nine parts acid phosphate, seven parts dried blood or fish scrap and four parts muriate of potash, applying 500 lbs. per acre.

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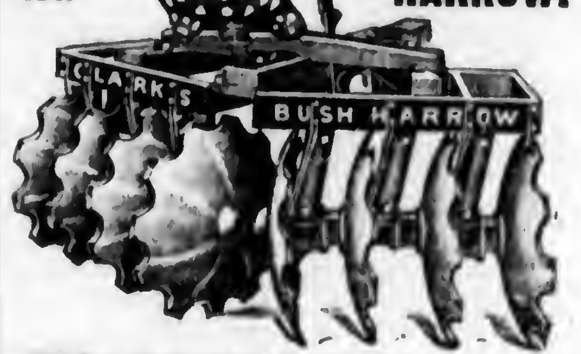

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CUTAWAY HARROW CO., HIGGANUM, CT.

Lice on Lettuce.—A. J. McNutt, Knoxville, Tenn.—"I heard your address at the Farmers' Convention here on the 21st of May, but did not get to hear your paper on market gardening on the 23rd. I am a market gardener, and would like to have the following answered. I have 231 sashes 3x6 feet and lease 5½ acres of land, and sold $1,750 worth last year. 1. What remedy is there for the blue lice on lettuce in hot beds and frames? 2. What remedy for the mildew or damping off of the lettuce? I lost half my crop this past winter on account of these troubles. The P. F. has been a great help to me, has made me money during the long dry spell by taking your advice on continual shallow cultivation in dry weather." From the number of P. F. readers I met at Knoxville it seemed as though every one in East Tennessee is a subscriber. My advice to you is to keep on with that 5½ acres of land, and do not be tempted to spread out, but intensify all you can on that garden. Now as to your questions. 1. There is no remedy equal to keeping the lice away. It is a hard matter to combat them when once in possession. Fumigation with tobacco will destroy any form of aphis, but fumigation is not desirable with a crop like lettuce if it can be avoided. The best way to keep them out is to use tobacco stems freely in making up the soil for the frames, and then get tobacco dust from the smoking tobacco factories and use it as a fertilizer between the rows liberally. A good dressing of tobacco dust repeated more than once will not only keep lice away but will help the crop. 2. As with the insects, so with the fungus, prevention is far better than cure. In fact, you cannot cure the lettuce after the disease takes it. The chief thing to be observed is to avoid planting the same soil over in lettuce in which the rot has appeared. You might do as some of the florists do now with their rose soil, sterilize it by heating it to a high temperature, but this involves considerable expense, and it is better to empty the frames and prepare a fresh compost for them. I make a compost of rotted sods and manure, piled and turned frequently during the summer till perfectly fine and black. I use one-third stable manure and two-thirds sods from good loamy soil. We have found that manure alone or fertilizer alone, will not make the finest lettuce. We must have both. So after filling our frames with the prepared compost we add a high grade fertilizer at rate of 1,000 pounds per acre. In making this fertilizer it is important to avoid the use of cottonseed meal for there is nothing that so favors the damping-off fungus as cottonseed meal. We have demonstrated this to our own satisfaction. Where cottonseed meal was largely used in the fertilizer we lost two-thirds of the crop from rot or damping off. Where, in similar soil, there was no cottonseed meal applied we had hardly any damping. We shall use the following mixture next fall: Acid phosphate, 10 parts; dried blood, 7 parts; nitrate of soda, 1 part, and muriate of potash, 2 parts, and will mix all except the nitrate in the soil a week or ten days before setting the plants, and will apply the nitrate after the plants get to growing, and will use tobacco dust freely. Then look closely after the airing of the frames, for a close atmosphere is one of the most favorable conditions to grow fungi of any sort. Give some air whenever the sun shines, no matter if it is rather cold, and when the temperature outside is above 32 degrees and the sun shines, strip the sashes off entirely. A Chattanooga gardener told us in Knoxville that he uses greenhouses for lettuce and grows only the loose Grand Rapids lettuce. He can probably grow this very well in a greenhouse, but our markets demand a hard heading lettuce, and we cannot grow them in a greenhouse in this climate, as the house will invariably get too warm for the lettuce in our sunny winters. With mats for covering the glass when the nights are very cold we can grow as fine lettuce in frames as the Northern gardeners can grow in heated houses. We are always glad to hear from the gardeners, for we want to make the P. F. useful to gardeners as well as farmers, and with the efficient aid of Mr. Greiner we hope to make the paper indispensable to market gardeners both North and South.

Lime on Clover Hay. — D. James, Langstaff, Ont., Can. — "I have heard that air-slacked lime placed upon green clover when hauled into the barn, will preserve it and not injure the stock. Please let me know if this is correct." Our advice is to let the lime alone. If the clover is properly handled and cured mainly in the cock till no sap can be wrung by a hard twist, and is then stored in the barn and let alone it will cure perfectly and make better hay than with lime or salt. Lime dust will certainly do the stock no good and may do them harm.

Permanent Pasture in Maryland.—S. M. Jones, Sandgates, Md.—"I wish to sow some hilly land to permanent pasture. I thought of plowing this summer and seeding to crimson clover with timothy and red top. We have great trouble in getting a stand of red clover. How should we prepare the land? We generally seed it on wheat in the early spring. Cow peas seem to do well, and I am greatly interested in them, as I believe they are to be the salvation of our land. Any information you can give to Southern Maryland farmers will be duly appreciated and followed strictly." To prepare the land for grass we would at once sow it in Black cow peas. If the land is in fairly good heart we would mow these for hay in late August, and would then prepare the stubble for grass. In sowing the peas we would use on them 300 pounds per acre of acid phosphte and 50 pounds of muriate of potash. This will give you a heavier crop of peas and more help to the land through their growth. Then, as you want a permanent pasture we would not sow timothy, for timothy is by no means permanent in a pasture. To get a good sod at once you should seed heavily. We would prepare the land well and endeavor to be ready to sow in September. While you can get a good stand with the grass alone we think that it might be more economical to seed with winter oats. Get the Gray Virginia Turf oats from Richmond and sow in September, two bushels per acre, and then after drilling the oats sow the following mixture of grasses: Orchard grass, 10 pounds; red top, 5 pounds, and poa compressa or Canada blue grass, 10 pounds per acre. The blue grass will finally make the pasture. In Southern Maryland we believe that you will always have better success with red clover by sowing it in the fall. Sown with Turf oats in September it will usually do well, but if sown with the wheat, if it fails, you will still have the spring chance left. Unless the winter is especially severe we believe that you will usually succeed better by sowing with the wheat in the fall, while the ground is fresh.

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Emery, Ky., April 9, 1903.
I feel it my duty to tell what Veterinary Pixine did for a horse of mine. He was cut with a knife between the forelegs, 3 inches deep and 2 inches long, which every minute would gap open. I used several different kinds of remedy without success, even to having some stitches taken. Nothing did any good and it kept swelling and became feverish. I almost gave up hopes of getting him well. In the column of the Ohio Farmer I observed your adv. and, as it was the last chance, I purchased a box at the druggists and used it as directed and before the box was used up the was entirely well. I intend to keep a supply on hand for emergency cases if it costs a dollar a box. Please accept my thanks for the good I have received from its use and if you choose you can use my name and testimony.
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Some Interesting Experiments.

PROF. A. M. SOULE.

A number of interesting experiments have recently been conducted at the Tennessee Experiment Station which should throw some light on feeding problems of general interest to the farmer. It has been found that a gallon of milk can be produced at high prices for foodstuffs, that is, in a year when farm products command an unusually high price, for about 7.3 cents, and at low prices, that is, when farm products are cheap, for 5.2 cents. Under the same conditions a pound of butter can be produced for 13.9 and 9.9 cents respectively. These facts should cause the Southern farmer to consider the advantages of dairying very seriously and give more attention to this important industry. Other experiments have shown that chopped pea hay can be substituted for wheat bran and to a certain extent for cottonseed meal in feeding dairy cows. This means that in regions where the cow pea can be grown the farmer can practically produce all the protein needed for his dairy herd and thus save the purchase of a large quantity of some expensive concentrate. The saving which could thus be effected would frequently determine the success or failure of the dairy interest in many localities. In 1902 twenty-seven cows in the Station herd produced 137,258 pounds of milk and 7,825 pounds of butter, or 5,083 pounds of milk per head, and about 300 pounds of butter. The best cow in the herd, Filices 2nd, a Holstein, made 12,673 pounds of milk and 473.11 pounds of butter; Nettie, a Jersey, made 6,850 pounds of milk and 443.29 pounds of butter, while Lady Tippins, a Jersey heifer with first calf, has given in nine months, 5,676 pounds of milk and 337.71 pounds of butter.

The productiveness of Southern soils when properly treated, is shown by the following statement: On 60 acres of land in 1902, more than enough roughness was produced to feed 160 head of live stock of all classes, besides 400 bushels of grain. Seventy tons of hay were produced, or more than one ton per acre, and 340 tons of green feed. Three years ago this same land did not yield enough roughness to feed 50 head of stock. To obtain these results not more than 150 pounds of commercial fertilizer was used per acre, together with ten tons of farmyard manure every third year. Deep plowing, subsoiling and thorough tillage did the rest. The largest yield of silage was obtained from sorghum and peas in 2-foot rows. The yield was 19.75 tons per acre and the cost $1.15 per ton. A very cheap and satisfactory roughness can thus be had for dairy cattle the year around—a very important matter to the dairy farmer. The value of silage can hardly be over-estimated, for it has been found to be less expensive and more satisfactory than soiling crops and it has now been fed for several seasons throughout the summer months with satisfactory results. The experiments in feeding beef cattle have brought out some very interesting facts. Sixteen head of cattle fed for 150 days in the winter of 1902-3 gained 5,347 pounds. The best of these cattle gained 2.4 pounds per day and all of them averaged 2.23 pounds, or over 300 pounds apiece. These cattle were in such excellent condition that they readily sold for 5 cents per pound and the gain in live weight was almost sufficient to pay for the cost of the feed. The value of the manure from these animals would certainly offset the cost of care and considering the buying price, 3½ cents per pound, live weight, a net profit of $225.06 was made from the transaction. The foods used were corn and cob meal, cottonseed meal and silage. Every farmer can have this ration and with good stock can make money from the winter feeding of beef cattle. This important industry should receive more attention in the future than it has in the past.

In the grazing experiments with hogs in 1902, the gain per acre was as follows: On spring oats 355 pounds; sorghum 300 pounds; soy beans 375 pounds; cow peas 235 pounds. When one pound of corn and wheat meal was fed per day the gain per acre was as follows: Spring oats 655 pounds; sorghum 400 pounds; soy beans 600 pounds; cow peas 563 pounds. It is quite evident from these results that grazing crops should be more largely used in the production of pork. The experiments in progress with feeding various combinations of corn and cob meal, wheat meal and skimmilk to hogs have given some very interesting results already. The best gain, 1.59 pounds per head per day, was made on a ration of 9 pounds skimmilk, 2 pounds corn meal and 1 pound of wheat meal. This was in the experiment of 1901. It will be noticed from the statement below that the hogs cost 6 cents per pound and were sold for 5.6 cents. It would naturally seem that the experiment would thus be a failure from a financial standpoint, but after allowing for the cost of the feed and care a very fair profit was made on the 24 animals, which is the best evidence that the farmer should finish his hogs and not sell them in a half-fattened condition. The initial weight of the 24 pigs was 1,534.5 pounds, which at 6 cents a pound would make them worth $92.07; the final weight was 3,680.5 pounds, which at 5.6 cents, would be $200.11; and the cost of the feed was $78.30, leaving a net profit of $29.74.

Growing Supplemental Concentrates.

The Tennessee Mammoth Yellow soy bean, which has been developed at our Station, yielded in 1902, 32.4 bushels per acre. It was seeded May 10th and harvested September 26th, when it made 9.22 tons of green feed and 3 tons of dry hay. Is not this a wonderful plant for its composition shows it to contain more digestible protein than 3 pounds of corn. It is followed quite closely by the cow pea with yields in bushels per acre as follows in 1902: Whippoorwill, 21.25; Early Black Eye, 21.25; Large Black, 18.55; Taylor, 15.83. In addition to making these large grain yields, cow peas will yield from 7 to 10 tons of green food or silage per acre, or 2 to 3 tons of hay, slightly richer in feed nutrients than alfalfa, a hay so rich, in fact, in concentrates and protein in particular that it has been possible at the Tennessee Station to substitute it for portion of the concentrates in feeding dairy cows.

Value of Corn and Sorghum for Silage.

It is interesting to study the comparative value of sorghum and corn for silage production in a drought year. To emphasize this point more clearly the following table has been introduced:

Crop	Seeded	Harvested	Yield per acre—tons	Cost per ton
Cocke's prolific corn	May 14, '01	Sept. 3, '01	6.9	$2.20
Amber sorghum	May 8, '01	Aug. 21, '01	9.75	2.08
Amber sorghum ¾ Kaffir corn ¼	May 9, '01	Aug. 29, '01	7.91	2.08

This figures indicate that in a dry year corn will not yield so many tons per acre of silage as sorghum, and that sorghum of itself will give a better yield than where it consists of one-fourth Kaffir corn. Even in a dry year when the yield was a little more than one-half of that shown in another table giving the yields of 1902, it is noteworthy that the cost of a ton of silage did not exceed $2, while under the most favorable conditions it can be made for $1 a ton. Many persons object to sorghum, as they believe it is hard on the soil, but an average crop of it does not take any more fertility from the land than a crop of corn. Sorghum is a shallow feeding plant as compared with corn; it draws its food from near the surface and so apparently exhausts the top soil. Land intended for sorghum should be cultivated deeply and well subsoiled to induce the deepest root growth possible and so distribute them over the widest area of the soil.

Tennessee Experiment Station.

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VETERINARY.

All inquiries for answers in this department should be sent to A. S. Alexander, M. D. C. V. S., 811 Spaight St., Madison, Wis., who has editorial charge of this department. All inquiries requiring answers by mail must be accompanied by a fee of $1 each.

Summer Itch. — We have a mare that gets what we call summer itch. She first breaks out in scabs all over her belly and neck and itches so that she rubs herself sore. As soon as cold weather comes she gets all right. Has been so for three years. She will drop colt June 1st. Feed oats and timothy hay.
Sunnyside, Md. AMOS W. MILLER.

As she has been affected this way for three years it will be somewhat difficult to cure her. Have her clipped if coat is rough. Substitute soft for hard drinking water. See that barn is kept clean and well ventilated. Feed no hay during working hours and do not turn her on green grass if there is work to do. Always give drinking water before but not soon after feeding. Cut down grain ration and feed a soft bran mash twice a week in which mix a tablespoonful of baking soda. Let her have a roomy box stall when in barn. Groom her thoroughly twice daily and keep harness clean and well brushed. In feed twice daily mix two drachms of powdered wood charcoal, one each of saltpetre and sulphur and half a drachm of powdered nux vomica. Druggist will mix you a quantity of this powder. If skin becomes itchy in spite of this treatment, sponge it several times daily where itchy, with a solution of one drachm each of sulphuric acid and carbolic acid in a pint of water. A solution of one tablespoonful of baking soda or hyposulphite of soda is also effective. Make sure that chicken lice are not the cause of the itching.

Chronic Laryngitis.—1. My 4-year-old colt has a cough, which comes and goes, and seems to be in his throat, and glands under jaws enlarge. A dose or two of quinine gets him well in a day or two, but the glands never entirely stop swelling. He did not shed off well this spring, and while he has a fine appetite, doesn't fatten as he should. He is fed on corn and fodder, and has pasture. Breathes hard when he is going fast. 2. Please tell me a good ration for driving horse and for work horses.
Accomac, Va. MARIETTA WISE.

1. Colt is afflicted with chronic laryngitis (sore throat), which explains the swollen condition of glands and loud breathing when worked. The fact that he has not shed off well and does not thrive may be explained by feeding corn, which does not always do well for young growing animals. It would be well to change to oats and bran with dried blood meal, which makes coat shed and leads to fast development. All hay should be wetted, but green grass is best in such conditions during season. It should be remembered that he is cutting several back teeth, also tushes and corner incisors (nippers), and when this is going on it is not uncommon for horse to have a dentition cough, so that it is quite likely that cough will disappear when the teeth are all through, say at five years and over. Sometimes lancing gums over cutting teeth gives great relief, and we also like to supply some hard ears of old corn for colt to chew on as a baby does on rubber ring when cutting teeth. For swollen condition of glands of throat clip hair from parts and blister well with cerate of cantharides, one ounce; biniodide of mercury, one drachm; mix. Rub it in for 15 minutes by the watch. Tie colt so he cannot lie down or rub blistered part. Wash blister off in 48 hours; then apply lard once daily. Three times daily give him one ounce of glyco-heroin with syringe in mouth. Do not use quinine, as it affects the stomach and lessens appetite when much used. 2. For a driving horse feed four quarts of whole oats three times daily with ten pounds of good hay fed morning and night, but not during day when he has work to do. Always give drinking water before feeding. At least once a week give a warm bran mash in which mix one drachm of saltpetre. Place a lump of rock salt in manger. Carrots and some bright corn fodder may be fed in winter and a little green grass during the season will not hurt when he is not being driven. For work horses use same feed but if of heavy draft breed increase amount of oats to 14 or 16 quarts a day and hay to 15 pounds in summer and 20 pounds in winter when less oats and some corn may be fed.

Shoe Boil.—Heaves.—I have a 10-year-old horse that has a lump about the size of a man's fist on back part of right foreleg, close up to the body. It seems to be just a calloused lump in the skin. Noticed it coming about six weeks ago. Is kept in barn at night, but has ground floor to lie on. 2. Have a mare that I would like to keep for breeding, but she has the heaves. Would you advise breeding mares with the heaves?
Laings, O. F. M. WORKMAN.

1. This is a shoe boil and is caused either by lying upon heels of shoe or hard floor. Spike a 2x4 scantling across floor of stall at point where chest would come when she is lying down. This will keep her from lying upon chest. Also bed well. As the tumor has become hard (fibroid) we would advise having it cut out and treated as a common wound unless you do not mind appearance of blemish which will not hurt her for work. The shoe boil may be cut off as follows: Make a running knot on a long piece of picture or piano wire. Place noose over tumor as close to body as possible, then by means of stick attached to each end of wire pull as tightly as possible. This puckers up skin and makes a narrow neck at root of tumor which is now to be cut off by means of a sharp, flat red-hot iron or sharp knife, in which case stop bleeding by searing with hot iron. Bleeding is sometimes profuse, but stops when hot iron is applied. Afterwards wet wound often with solution of half ounce of chloride of zinc, two ounces of sulphate of zinc and one drachm of hydrochloric acid in a pint of water. Also keep the wound clean. It will soon heal up under this treatment and it is quite surprising what a small scar is left. If flies should bother the wound dust it with iodoform as required or apply "Shoo-Fly." 2. Do not breed a mare that is afflicted with heaves. It is poor policy to use any unsound animal for breeding purposes. Tendency to heaves is hereditary and transmissible to the foal in that way.

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Barren Mare. — How can I breed my mare successfully? Mare is 7 years old; seems to be in perfect health. Has been bred twice, but failed to bring a colt. Will any drug help her? I also have a lot of hogs which cough frequently ever since last fall when hog cholera was around in this section.
Fountain Bluff, Ill. N. N.

1. If mare has a discharge from vagina, causing the disease known as leucorrhoea or "whites," she will not breed in that condition and should be cured by daily syringing of the vagina with two gallons of warm water containing half an ounce of tannic acid and two drachms of carbolic acid. If there is no discharge and mare is fat, cut down grain ration or stop it altogether for some time while working the mare hard to reduce flesh. During this time feed her bran mashes, hay and grass. When she is in good muscular shape open mouth of womb when she is in heat and have her bred by means of a 1-ounce gelatine capsule. To open the mouth of womb insert cleansed, larded arm and pass to back of vagina until in its centre is found a pursed up, bud-like spot which is the closed os uteri (mouth of womb). Try to insert the finger slowly and carefully by rotary, forward motion, and when part is dilated somewhat gradually pass in the fingers held in cone shape. This may require time and patience, but it may usually be accomplished without use of instruments. After opening womb have mare served and then proceed to breed by means of capsule. Remove cap of capsule, introduce barrel of capsule, open end first, into vagina and with it scoop up some of the fluid to be found on floor of vagina; this done, turn the capsule around without removing it, squeeze end shut and pass capsule through mouth of womb into womb and leave it there where it will soon dissolve. This completes the operation, but keep mare quiet in box stall on soft food for a few days. If necessary to breed again use two capsules. This operation will fail if there is disease of the womb or ovaries present. 2. Dust is a common cause of cough in hogs; avoid it. Worms, too, may cause cough; give turpentine in milk at rate of one teaspoonful of turpentine for each 100 lbs. of live weight. Repeat two or three times a week until well. For cough from throat or lungs give glyco-heroin in drachm doses several times daily, increasing each dose until well.

Straightening Tail. — I have a large colt four years old, that carries his tail to one side. How can I prevent this? Will it make a young horse spread to dock the end of his tail bone? Would you recommend clean castration even if you had to go into the belly after one?
Manila, Ky. CLARK LEMASTER.

1. The operation is best performed by someone intimate with the anatomy of the parts. Colt is to be cast, tail washed with antiseptic solution, then about eight inches from root of tail, on inner surface, insert a small, sharp lance or knife blade straight through to the hairy side of tail but not coming through the skin of that side. The point to insert knife is about midway between centre of tail and outer rim on side curve inclines to. Having made this puncture insert a probe-pointed bistoury and after feeling it against skin of other side of tail cut with it everything from that point outwards under skin until knife is withdrawn from original point of entry. This done, repeat the operation three or four inches further down towards point of tail, then tie the tail around to a circingle on side of horse away from curve in tail. Bend the tail over sharply to this side several times daily, then tie again. Wash seat of operation twice daily with carbolized warm water, one teaspoonful to the cupful of water. 2. It will not make a colt spread to cut off the end of his tail. Proper shoeing and driving will do it. As a last resort some horsemen blister slightly between hind legs at groin. We consider this unnecessary and rather cruel. 3. Where but one testicle is found when colt is one or two years of age, it is advisable to remove the testicle in sight and allow one year for the other testicle to come down. If it does not do so then have the ridgling operation performed by an experienced operator, from whom the operation can usually be learned for a moderate fee. The operation cannot be properly learned from description, and is so dangerous when badly done that we do not care to risk giving such instructions here.

Horn Flies.—My cattle are infested with swarms of small flies; they are annoying to the cattle, sometimes covering half the side of a steer. J. W. BERRY.
Glasgow Junction, Ky.

The fly referred to is known as the horn fly, which is a source of great misery to cattle and also causes some loss of flesh. All sorts of plans have been tried for the scraping and brushing of these flies off cattle into traps in buildings, but so far no practical plan of this sort has been devised and some effective "fly shoo" must be used. The following formula is highly recommended but is not superior, perhaps, to other fly "dopes" on the market: Fish oil, 2 quarts; carbolic acid (crude), 1 pint; pennyroyal, 1 ounce; oil of tar, 8 ounces; kerosene to make 1 gallon. This should be made into an emulsion by churning or other means and is to be used with spray pump on backs of cattle as required. Besides keeping off the horn fly this will be found serviceable in keeping away heel flies and ox warble flies, the latter being the cause of the large grubs found in the skins of the backs of cattle in early winter. It is certainly humane to attempt the prevention of fly attacks and also a profitable work, as it prevents loss of flesh and decrease in milk production.

Signs of the Zodiac.—1. Is there anything in the twelve signs of the Zodiac or in the moon. Most of the people go by these signs when altering stock; is there any truth in them? 2. How old should a horse be before he should serve a mare, and how should he be treated from a colt up? 3. What is good for lump jaw on cattle, or can it be cured? A SUBSCRIBER.
Jefferson City, Tenn.

1. There is not the slightest truth in signs of the zodiac so far as operations and farm work are concerned. Belief in these signs is a relic of the dark ages; other relics are belief in "wolf in the tail," "hollow horn" and witchcraft. Perform operations properly with clean instruments and hand and in suitable weather and let the signs go to zodiac. 2. Theoretically a colt should not be used for breeding purposes until he is mature, say five years of age and upward. Until that time he is growing, cutting teeth and developing frame. Most breeders, however, use immature horses for light service, from two years up. As a safe compromise would not use a horse earlier than three or four years of age, and then allow him but a few mares. The secret of successful colt raising is to feed from birth on nitrogenous foods. Pregnant mare should be fed with plenty of oats and bran along with an abundance of succulent food, hay and fodder and have at all times plenty of exercise. After foaling similar feeding should be continued and foal should have a chance to eat a mixture of two parts crushed or ground oats, one part bran and one-quarter part dried blood meal just as soon as possible. This is accomplished by filling a box with these foods and placing it where the foal can lick the feed at will, but where the mare cannot get at it. Corn should be very sparingly used during the growing period of the foal's life and for pregnant and nursing mares. It is best used as a part of the ration during cold winter weather. 3. Lump jaw may be cured by giving one drachm of iodide of potash two or three times daily, in water, until animal becomes thin, has scurfy skin, loses appetite, slobbers, runs at nose, eyes, etc. This treatment cannot be safely given to pregnant cows. Local treatment consists in cutting out the diseased part and scraping affected bone, then swabbing with a solution of two drachms of corrosive sublimate and one drachm of hydrochloric acid in two ounces of water. Iodine tincture may also be injected into discharging sores and used externally as a paint for tumors.

Barren Cows.—To make sows breed, just feed them burnt corn, on the cob. Put the corn in the stove and let it burn all over until it is black. Feed for 2 or 3 days, 2 or 3 ears at a feed. Wish someone would tell me a simple remedy to make cow breed.
Simmons, Mo. WM. J. SPENCER.

In order to give intelligent advice regarding cows that won't get in calf it is necessary to have full particulars as to condition of cows, whether they have a discharge from vagina or not, how long they have been barren and are they fat; also is bull old and overworked or suffering from gonorrhoea or anything of that sort. All these things have to be looked to and it is important to see that the cows have not a vaginal discharge (whites), are not afflicted with contagious abortion germs and are not in present condition owing to retention of afterbirth. If all of these things are absent then it is usually possible to make them get in calf by reducing them greatly in flesh by spare diet and ample exercise and then opening mouth of womb just before service. Before service wash out vagina with two quarts of warm water in which dissolve a tablespoonful of baking soda. It is best in such cases to breed cow when she is just going out of heat and at that time to turn her in a small yard with a number of lusty young bulls.

Eczema.—I have a mare that has some kind of a humor about her ears, that makes her very difficult to bridle. T. R. WADE.
Shelbyville, Tenn.

It is not possible to gain much of an opinion from your meagre note regarding the condition present, but we presume that there is an eczematous skin disease which may be due to overfeeding on corn or other food. It would be well to give a change of food and allow a bran mash twice a week. Put a twitch in her nose and then wash the affected part thoroughly to remove scabs, then smear a little resinol ointment on affected parts. You can get this ointment at almost any drug store, but if the druggist has none, then apply an ointment of two drachms of flowers of sulphur, one drachm of boracic acid and one drachm of compound tincture of benzoin, applying it once or twice daily. Groom body thoroughly twice daily. Let her have a roomy box stall in barn and see that she is worked or exercised every day. In feed twice daily mix half an ounce of hyposulphite of soda or give it to her dissolved in drinking water if she will take it in that way.

Weak Cow.—I have a grade Jersey cow, dropped her third calf May 11th last; did well apparently until the 8th day when she appeared to be weak in back with udder swelled considerably. Gave her some small doses tincture aconite, bathed udder with oil of turpentine and lard, mixed equal parts. Bathed back with ammonia and spirits camphor, equal parts, when she got well to all appearances. Now she is as bad as ever, her back apparently weak, so she can hardly get around leaning mostly to left side.
Louisa, Ky. JAS. NORTON.

It is difficult to give a reason for weakness of this sort following calving, and especially of the inflammation of the udder. In some cases the weakness and stiffness are apparently due to the fact that pelvic ligaments do not knit together again after relaxing at calving time. Sometimes womb is affected and sometimes tuberculosis is the cause of both weakness and the udder trouble. On general principles we would advise you to give her fluid extract of nux vomica three times daily in food, increasing the dose daily until she is well or muscles are seen to twitch involuntarily when original dose should be gone back to and repeated. Would commence with half drachm of the nux three times daily. Also rub the loins and muscles of hip once daily with a liniment composed of equal parts turpentine, aqua ammonia and raw linseed oil, but stop for a few days should the skin become sore. Foment udder with hot water twice daily if still swollen and then rub well with fluid extract of poke root, two ounces; fluid extract of belladonna leaves, one ounce; soap liniment three ounces; mix. Would feed her generously on foods likely to stimulate development of muscle, vim and vigor. Such foods should include ground oats, bran, flaxseed meal and dried blood meal. Also let her have exercise on pasture, but bring her into a comfortable, well bedded box stall at night and in bad weather.

Fistula of Ear.—I have a four-year-old horse that has a place on the front and lower part of his ear that runs something like the white of an egg. He was foaled that way; it is not sore, but just a discharge.
Weber, Ky. E. L. BROWN.

We have seen a few cases of this sort and experienced all sorts of trouble in doing away with the discharge which comes from the bursa mucosa. There is a fistula (pipe) of this secreting sac, which discharges a fluid like liquid vaseline, and which can only be treated by operation, which consists in dissecting out the pipe and sac and then cauterizing with a red-hot iron or injecting a concentrated solution of corrosive sublimate, such as: Corrosive sublimate, two drachms; hydrochloric acid, one drachm; water, one ounce. So difficult is it to cure the condition described that we would feel like telling you to let it alone unless the discharge is so profuse as to prove troublesome or unsightly. If you decide to treat the fistula, you better have it attended to by a veterinarian. It may be mentioned that at location alluded to we sometimes find a fistula connecting with a supernumerary tooth (molar) which may be cut down upon and removed after which the discharge will promptly cease and wound heal up.

Grub In The Head
About this time the gad-fly is laying its eggs in the nose of the sheep—eggs which will develop into grub. As the grub goes up into the sheep's head, the animal will sneeze, grow dizzy, and almost go wild. It may possibly cause death. If the sheep lives, the grub will eventually be sneezed out on the ground, and will develop into a gad-fly, which will come around next year to lay more eggs. Grub in the head takes the vitality out of sheep, interferes with their nourishment and growth, and, when the total loss is considered, the little head-grub has taken a big slice out of the grower's profits. The one safe cure is Chloro-Naptholeum Dip. At this time of the year—it's also a cure for contagious abortion—rub the dip well on the nose of all sheep, no matter how young. This will keep off the gad-fly, and prevent head grub. Chloro-Naptholeum used as directed is also a guaranteed cure for ticks, lice and other parasites and pests, so prevalent at this time of the year. A one gallon can costs $1.50; 5 gallons, $6.75; 10 gallons, $12.50, freight prepaid. In every prosperous agricultural centre there is a Chloro-Naptholeum agent. If you do not locate him, however, write direct to The West Disinfecting Co., Inc., 15 E. 59th St., New York. They send free on request their book "The Preventive Treatment of Sheep and Cattle Diseases."
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THE GARDEN.

This department is under the editorial charge of Mr. T. Greiner. All articles for, or questions relating to it, should be sent to him at La Salle, N. Y.

Lima Beans for Use and Ornament.

We can hardly say too much in praise of the lima bean both as a table vegetable and for ornament. In a recent issue of the Tribune Farmer Mr. Powell says: "This superb vegetable is one of the most remarkable achievements of agricultural skill. There is no better food for the table, either in summer or winter. After scalding beans, rub off the outside skin, and then cook. The removal of the skin makes the bean one of the most digestible vegetable products that we have. It comes very near to being a perfect food. You can grow a very large amount on a very small space. While living in St. Louis I found no difficulty in raising a fine lot of limas on the high fence of my back yard. A lot of fifty feet front by two hundred feet affords a chance for a good many vegetables and flowers. On the fences morning glories and lima beans unite the useful and beautiful perfectly. A very good way of growing them is over wire netting. Trained in this way, you may grow them even around your poultry house. Fowls will not disturb them. I have seen them climbing fifteen to twenty feet in trees and bearing huge clusters all the way. They need, however, a little skill in planting and cultivating. They should be planted with the eye down, just as soon as heavy frosts are over ;and covered with only a very light amount of fine soil. If covered heavily they will never come up. A good deal of this planting must be hand work. It will pay. When the beans begin to push out walk along the rows with a sharp pointed stick and loosen the dirt, if necessary, over the swelling cotyledons or thick leaves. Do not delay too long in planting for fear of frost. It will pay even to plant over again, rather than be late. The lima needs a long season to give a fine crop. Soil with a good deal of sand in it is preferable, but I succeed well on clay soil. Set your poles about six or seven feet high above the ground. I formerly cut off the tops of the vines when they had reached six or seven feet. I have stopped doing this because I do not find any special advantage. If the vines get a good start they ought to be in heavy bearing about August 1st. I have sold $40 worth from a strip one rod by three. Of course a good deal depends on the year and the market. Very frequently the crop is defective in New Jersey and Long Island, and the prices rule high. Dry limas for winter use are far ahead of any other bean. I have succeeded in crossing the lima with the old Horticultural, and have produced a variety which is very rich and oily. It is quite important in growing the lima to select seed of the new and improved varieties. The King of the Garden is one of the best, bearing huge pods in great number. The beans are very rich and very large. The Challenger is another good one, and Seiberts' is the earliest. The Fords' Mammoth is, however, ahead of anything that I have tried. It is simply enormous, and is as early as King of the Garden. The bush limas are not favorites with me, although Burpee's is a good bean, with a pod very nearly as large as those that grow on poles. The Henderson variety is a first-rate bean and gives immense crops besides being early. Still my choice is so far the pole bean. Don't forget that you can grow the pole lima just as you grow sweet peas and morning glories, so as to combine ornament and utility. The Sieva is sometimes called a lima bean, but it is nothing of the sort."

I still use my trellis of two horizontal wires and string wound around them zigzag fashion for my limas, with great satisfaction. It is a combination of utility and ornament that pleases.

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Talks on Timely Topics.

Growing Big Radishes. — A reader asks me to tell how to grow big radishes, and how to prevent them from running to seed. I know only one answer to that question, namely, select large varieties, such as the Chartier, and other long sorts, that take considerable time to come to their full development, and therefore will not run to seed so quickly as the quickly maturing smaller kinds, and then, of course, sow the seed in well prepared and properly enriched ground, thinning to from one to two inches in the row, and keep the soil loose about the plants until they are ready for use. But we want our radishes to grow quickly, if possible in three or at most four weeks' time. They may not be very large, and we know that they will soon get tough and worthless, and finally run to seed if not used promptly. Our practice, therefore, is to sow just what we think we will need at a time, and then make repetitional sowings every few days. Just as soon as the radishes have reached a good size for table use, they are pulled up as fast as needed, which, of course, prevents their running to seed. We seldom plant any other but the early, or quick-growing turnip-rooted sorts, of which there is quite a variety, some appearing under half a dozen different names.

Salt for Asparagus.—The application of salt is often supposed to have a special beneficial effect upon asparagus, and for that reason we find it often recommended even by horticultural experts. I have never seen any good reason for such supposition, nor been able to verify its truth in practice. We often get an indirect beneficial effect from light dressings of salt on garden and field crops generally. Like lime, plaster, etc., it may start chemical action by which plant food compounds are broken up, and food elements unlocked and put into available form for plant nutrition. But when the soil is so well supplied with all needed plant foods in readily available forms, the application of salt can do no more. The Rural New Yorker says: "It was formerly the custom to empty the brine from pork and beef barrels on the garden patch of asparagus, often with surprisingly good results, as this home-made preserving liquid usually contained a high percentage of nitrogenous matter dissolved from the meats and more or less saltpetre or nitrate of potash is usually included in such formulas, and thus the asparagus is supplied with concentrated food materials, for which the salt or chloride of sodium gets all the credit. Established asparagus plants root deeply, and are very resistant to the influence of salt, which may be put on strong enough to kill out most weeds without exerting a particularly harmful influence. If there are already good supplies of plant food in the soil salt may aid in dissolving it out, especially in light, sandy land, where it probably also aids in conserving moisture. In heavy soil it is always likely to do more harm than good. To grow asparagus profitably it is needful to manure heavily. Most New Jersey growers pin their faith to 20-ton applications of stable manure to the acre, hauled on in late winter while the ground is still frozen. This gives good satisfaction, but cleaner, surer and better all around results are likely to be had from using 1,000 to 2,000 pounds of a good high grade potato fertilizer to each acre, applied broadcast just as the cutting season is over, and cultivated in the soil. There should be about four per cent. of nitrogen, five or six of potash and eight of available phosphoric acid. Many think kainit the best source of potash for asparagus. As kainit is about half common salt, at least twice the weight of this material should be used as of muriate or sulphate of potash in making up the fertilizing mixture to secure the necessary potash, and a proportionally larger amount should be applied to the land." I am not yet ready to endorse the Rural's assertion, that surer, cleaner and better all around results can be secured by using concentrated manures than good home-made coarse manures. On the contrary, I believe in relying first of all on our home resources, and using good stable manures for asparagus freely, even lavishly. We must lighten our heavier soils. Must make them more retentive of moisture. For asparagus I want the soil actually filled with humus, and the free use of stable manure will give it. The application is best made in the fall or early winter, so that by spring the manure can be nicely mixed with the soil, and the plant foods will then be ready to produce a strong growth of root, and the reserve energy for the next season's crop. Contrary to the Rural's advice, I recommend, and believe in applying chemical fertilizers, including ashes, during early spring. After the cutting season the soil is usually dry, and the fertilizer applied to the surface, could not be expected to exert its full influence in building up root growth until the fall rains. If applied in early spring, these plant foods have a chance to get down into the soil and to the roots by the help of the spring rains, and the roots at the close of the cutting season, when making their strongest growth and storing up reserve energy, or raw material for next year's crop, will make good use of them.

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Notes from a Carolina Garden.

The Harbinger peas have been a great success. Though planted too late for the best results, and therefore somewhat struck by mildew, they gave a fine crop of large pods and big peas of fine flavor. The little plants grew but six inches high, but by planting them in rows 12 inches apart I believe we can get more peas, or certainly as many as from taller varieties planted wider apart. I have made a note to use more Harbingers next season.

The extra early Valentine beans have been and still are giving us an abundant supply, and we have some other sorts coming on, the succession of which we will have more to say later on. Most of the stocks of the Charleston Wakefield cabbage need improvement. I find that while most of the plants come the typical shape, there are still a great many later round and flattish heads. Those of the typical sugar loaf shape are larger than the regular stocks of Wakefield, and a very little later, and if culled out pure would make this a very valuable cabbage. We have just sown our parsnips. Our Northern friends, who put the parsnip seed in the ground among the earliest things sown, may wonder at sowing parsnips in June. But we have learned that in the South it is not desirable to sow parsnips or salsify early. They are apt then to run to seed in mid-summer and make poor, woody roots. Sown in early June they grow right on and keep growing all winter through. I have sown salsify as late as August and made a good crop, for its best growth is made here during November and December.

We are now giving the bush lima beans a mulching of fine stable manure. The limas, unlike other legumes, make no nodules on the roots, and gather no nitrogen from the air, and hence they agree well with liberal manuring. The manure on top of the ground prevents crusting to a great extent and helps to retain moisture. In our sunny climate I find that surface manuring is decidedly better than using all the manure under the crop. The cultivation will, of course, be continued, but the manure will be in the upper surface all the time and the crusting will be far less.

Early Summer cabbages, from seed sown in February, are now heading finely, and succeed the Charleston Wakefield very nicely. Succession is a little later, and will make a fine succession to the Summer. Later than this no cabbage does well here until fall. In August we will sow seed of Late Flat Dutch and other late varieties, and keep them growing rapidly, setting the plants in September, and expect to head them in November and December, for we never have any weather until after Christmas that will stop a cabbage from growing. Out in our high mountain country they grow great fields of cabbages that head in August and September and are shipped to Florida and the Southern coast cities in immense quantities, but in this warmer part of the State no cabbage will head at that time, and hence the general planting of the collard, the survival of the fittest. Collards, if turned down and the larger part of the head buried in the soil so as to bleach in winter, are not a poor vegetable, and their resistance to climatic influences has made them about the only late cabbage grown in the warmer sections of the South. Careful breeding might developed a collard that would make a hard head, but as yet they do not do so.

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Points and Pickings.

Reports indicate an average acreage of onions for 1903.

The English Broad Bean (Windsor bean, horse bean) is quite an interesting plant. Many people make a failure of it simply because they imagine it requires the same conditions as common field beans. It should be planted early, at the time when we plant early peas, so as to have the advantage of the early cool part of spring. Real summer heat and drought are too much for them.

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Horticultural.

This department is under the editorial charge of Joseph Meehan, 69 Pleasant St., Germantown, Pa. All letters, inquiries and requests should be addressed to him as above.

Raising White Pine Seedlings.

The numerous inquiries concerning the sowing of white pine seeds which are being received by the writer shows a commendable interest in the subject. There is really but little of the timber of this valuable tree obtainable; and at the same time it is in demand at high prices. The Governments of Europe far surpass the people of this country in the interest displayed in this subject. Enormous quantities of our forest seeds are exported by us every season, not only of the white pine, but of a dozen or more of our valuable forest trees. In many cases it has been found by those Governments that a crop of timber was the most valuable product of the land.

I am tempted to repeat again some hints on the sowing of the white pine, because of an inquiry coming to me from Massachusetts. The correspondent has six acres which he wishes to have covered with white pine. But he starts wrong by entertaining the idea of sowing broadcast. This is not the way to start a plantation. What is required is to set seedlings at proper distances apart, not sow seeds to have the plants come up where they will. There is no way to sow tree seeds to advantage sown broadcast. Some are not covered, some are eaten by birds or vermin, others grow where they are not wanted, and in this and other ways the plan is unsatisfactory. Sow the seed in a bed, no wider than can be reached to the centre from either side. Cover as you would any other seed. Shade the bed with brush or even a loose covering of forest leaves, to be taken off as soon as the seedlings are well above ground. These seedlings will be but an inch or two in height by fall and should not be disturbed until two years of growth have passed, then they may be set out four feet apart each way. But it will be as well in almost all cases to buy a lot of seedlings, instead raising them from those who make a business of it.

Bedding Plants.

The many beautiful hardy flowering plants introduced of late years, added to the numerous older ones which almost all of us have known from childhood, give us a large assortment from which to fill our gardens. But for summer display, whether we think of hardy plants or greenhouse ones but few can be named of more value than the geranium and the coleus. Go where one will, in the gardens of the poor, the grounds of the rich, the public parks of our large cities or to the cemeteries, the geranium and the coleus are the foundation of all the bedding for summer. It is permanency of color, harmonizing with the surroundings, that makes these plants so valuable. Verbenas, petunias, heliotrope and a host of other plants can be, and should be used, where room permits of it, but the leading positions are for the geranium and the coleus. One color is best used by itself, excepting where space permits of a large bed, and then the central plants may be of a different color from the outside ones, providing the colors harmonize. Coleus are grand plants for summer. They can not be planted out as early as geraniums, being less hardy. A single plant is pretty, but a whole bed surpasses it. Though dozens of sorts are to be had of florists, but few will be found to excel the good kinds, Verschaffelti and Queen Victoria. The former is darker leaved than the other, and is a trifle hardier in the way of standing cold nights in the fall.

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Horticultural Queries.

Ivy on Trees.—Will you please tell me whether ivy growing on a green oak tree will kill the tree or not? We have a fine post oak in our yard and the ivy has grown over the body of it, but has not covered the limbs yet, and some say when it does cover the limbs the tree will die. S. P.
Fairburn, Ga.

Ivy does not injure a tree in the least when confined to the trunk and bare limbs. But if you let it grow until its green leaves smother the leaves of the oak, it will injure the oak then. Inquiries like yours are often received; and all those interested may be assured that the covering of the naked trunk and limbs is to be recommended, as it beautifies trees. But the vine, no matter what kind it is, must not be permitted to smother the leaves of the tree. Cut the vine—the ivy in your case—back partly, if it shows a disposition to reach where the leaves are.

Growing Quinces.—I would be pleased to see something about the care of quince trees. I have some trees of the Orange variety; have been set about five years; are growing nicely, but only bear a few blossoms and no quinces, although a few are set this year. CHAS. A. HOWARD.
Seaman, O.

Your quince trees are still young, and it is not uncommon for such trees to bear but little fruit until six to seven years have passed, especially if in the meantime they are growing nicely. As the quince is a moisture loving tree and one that likes to be cool at the root, it may be as well to let it branch low to shade the trunk and the ground. Watch that borers do not gain access to the trunk; and if they do get in, get them out at once. Look over the bushes in July and September for this purpose. Liquid manure fed to quince bushes is a grand help to them.

Eucalyptus.—Will you please give us a description of the Eucalyptus tree? Also, where can it be secured and what use its wood can be, etc. JAS. M. BELL.
Fairmount, Ind.

The eucalyptus is of no use whatever to you. It is a tender plant in the North, being killed by the first frost. An article on the subject will shortly appear in this department. Those who recommend it evidently have no knowledge at all of its requirements.

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Horticultural Notes.

Quinces. — Give quinces moist ground without being wet, and let them be well supplied with food, and success usually follows. Liquid manure is excellent for them.

The Mulberry which is so much grown for feeding silk worms is the European white one, called Morus Alba. Seeds sown in early spring germinate at once, if season is at all favorable.

The Japanese Rose, Rugosa, is a true hardy shrub, standing a degree of frost to zero and lower, without the slightest injury. Its large, single pink flowers are among the very first to open in spring.

Lilacs.—What a lot of nonsense there is going on about new lilacs! The old purple is as good as is going of that color. Rubra Insignis for a red and the old white or Paniculata, a newer white, counting in the old Persian, fill the requirements of anyone.

The Flowering Raspberry which is listed in some catalogues is our wild raspberry, Rubrus Odoratis. Though it fruits, it is not a fruit in the sense the term is understood, but is grown as a flowering shrub. It bears large pink flowers, not profusely, but off and on all summer.

Roses.—As soon as rose flowers fade, cut them off. It promotes fresh growth, which brings fresh flowers.

English Walnuts. — Inquiries from friends at Rochester, New York, result in the information that there are a few large, thrifty English walnut trees there, and that it is believed the trees are not hardy north of that point.

Budding.—The budding of fruit stocks is carried on from early summer until fall; the exact time in each case, depending on the growth of the stock. The work must be done while the sap is still flowing freely, but not when it is in its first stages of flowing.

Setting Trees.—When setting trees, if a shovelful or two of sand be thrown about the roots before the ordinary soil is placed there it promotes the formation of roots better than anything else will do, and it sets close to the roots, which is what is wanted in such cases.

POULTRY.

To Earn $100 More a Year.

In a recent number of "Our Grange Homes" is a report of a meeting of Penobscot Co. (Maine) Pomona Grange, at which meeting the question assigned for the afternoon discussion was "How can the average Penobscot county farmer earn $100 more this year than last?" One speaker advocated stock raising and stated that the average farmer at small expense would earn the money in that way. Another speaker said that he planned to make extra money with the potato crop. Another said he would not specialize but would extend his work in all branches; would work harder and have his wife work harder; would raise more farm stock, pigs, hens and potatoes. Another said he would add to his income by raising fifty pigs. One sister advocated the raising of small fruits. Another farmer said he would make this $100 by employing a better hired man. Another farmer advocated raising all the stock possible and was supported by a neighbor who added the advice to raise the crops which the stock was fed upon. The Master of the Grange in summing up, said: "The talk indicates that we must work, and that with interest, if we are to succeed. I am somewhat interested in pigs; I have eleven. Last year I kept eight at a net profit of $21. I think I failed last year by not feeding enough when they were young. I intend to give them more pasture room this year. Potatoes are sure money at the present price; pork will pay if the price holds high; there is money in poultry. I believe in specializing along the line for which one seems best adapted. We should experiment a little, not run in the same ruts as, perchance, our grandfathers did before us, else we are not progressive."

It is a constant surprise to us that these intelligent, and in a way, progressive, farmers find it so difficult to realize the profitableness of poultry raising, and the great pecuniary advantage it is to the farmer to increase his poultry work. One farmer at this same Grange meeting stated that he had a flock of ten Plymouth Rock hens last year, and when the year came around they had paid a profit of $22.32. This is a profit of $2.23 apiece, and it is surprising that those farmers cannot see that by simply multiplying those ten hens by ten they can get $223 profit. We know it is comparatively easy to do this in Maine, because we have the figures of men who are doing it year after year, and when we read the statement made by Ex-President Cushman of the Main Poultry Association, before the Agricultural Committee of the Legislature, to the effect that Maine imports two and a half million dollars' worth of eggs and poultry every year, it certainly is cause for surprise that these intelligent Maine farmers do not open their eyes to the opportunity they have right there at their door. We do not overlook the fact that probably the bulk of this two and a half millions of dollars is paid out for poultry, meat and eggs for the hundreds of thousands of summer visitors that flock to Maine every year. Why do not the Maine farmers raise the poultry and eggs to meet that demand right there at home, and keep that large sum of money in the State?

We recently told of the case of a Maine farmer who wanted extra money to help his boys to an education, bought two incubators and half a dozen brooders, and by increasing his poultry to about 100 head and raising three or four hundred chickens each year, he has cleaned up an average of $300 cash profit each year for the last ten years. There is absolutely nothing favorable in his situation. He lives on one of the large islands in Penobscot Bay, lives four miles from the steamboat landing, and has to haul all of the purchased food over four miles of hard, hilly road, and has to haul his eggs and dressed poultry over the same hard, hilly road to the steamboat landing to send them to market; everyone of the farmers who attended that Penobscot Co. Pomona Grange is doubtless more favorably situated than this farmer of whom we wrote. We know of another case of a farmer in Maine who is eleven miles from the railroad and has to haul all of the grain that he buys over that 11 miles; but he sends his eggs to market by the mail stage, which takes his cases of eggs to the express office at the railway station for the moderate charge of 25 cents per case. This man makes egg-farming the principal part of his business, keeps about 400 hens and clears $700 to $800 a year, in cool cash profits from eggs only. Why cannot our Maine friends get that additional $100 easier by keeping fifty hens than by any other work they can do on the farm? We know something of farming conditions in Maine and know that fifty good Plymouth Rock hens would give them that desired $100. Indeed 50 good Plymouth Rocks hens would be worth $40 to sell in the market alive, today. The last quotations of live poultry in Boston market were 13 and 13½ cents, and good Plymouth Rock hens will average to weigh 6½ to 7 pounds apiece, 7 pounds of hen at 13 cents a pound is 91 cents, and fifty hens of that weight would sell alive in the Boston market for $45.50. When in Chicago a few weeks ago we were told of an Illinois farmer who sent some Plymouth Rock hens to that city at a time when they were selling at 15 cents a pound alive, and the hens actually netted him $1.07 apiece after freight and commission were paid. Surely with such prices as poultry is bringing today, and the constant demand there is for "strictly fresh" eggs, our Maine friends need not work so very hard to get an additional $100 a year!

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Poultry Queries.

Best Chickens for Low Land. — M. Murphy, Eldorado, Ill., "What is the best breed of chickens for low land where there is a great deal of mud? I don't want Rocks or 'Dottes; Leghorns seem hardy enough, but they are so small; I would like to know something about Rhode Island Reds, also the Cornish Indian Games. I was glad to read your 'Well Balanced Ration' article in December 20th P. F., but would like to ask if it isn't just as well to feed the mash in afternoon? The busy housewife can cook the vegetables, etc., while preparing the noon meal, stir in the meals and let it stand on the back of the stove and it is then just about right to feed a little before dark. I feed a light feed of grain in the morning and they have the day to pick and hunt for stray grain, insects, etc.; there are few days here when they can't be out and get their own green stuff. I am more interested in the poultry column than in all the rest of the P. F." The "best breed for low land" is a puzzle, as low, wet land is a rather poor place for poultry; dampness is unfavorable for good health of both hens and humans! The R. I. Reds are strong and hardy, and are great layers; they are about the size of 'Dottes and an excellent all-around fowl. The Cornish Indian Games are rather poor property for a farmer, they are very slow maturing and rather sluggish layers, but their flesh is esteemed for its fine flavor and superior quality. It is practically just as well to feed the mash at night feeding; it is fed at that time by a great many. The Massachusetts Agricultural Experiment Station tested the question of morning or night feeding of the mash a year or two ago and found very little difference in egg yield or health of fowls between the two methods; the pen of fowls fed the mash at night feeding yielded more than twice the quantity of droppings on the roost platform, showing that the digestion of the mash is very rapid. We want, however, to ask your attention to the article "Dry Feeding the Chicks" in May 16th P. F. We have another communication from Bro. Gillham, telling how he feeds his laying hens on "dry food" and what good results he gets. This we will print shortly, and it suggests the question, "Why feed mashes at all if the easier dry feeding gives as good or even better results?"

Food Questions.—Mrs. M. B. M., Pine Bush, N. Y., writes: "I have read with interest your article in the P. F. of May 2nd; please tell me what you mean by 'chicken grit,' 'corn and oat chop,' 'fancy middlings' and 'meat meal.' Beef scraps, I suppose, is meat left from the table; by meat meal do you mean 'B. B. & B.' I see advertised in the P. F.? By hulled oats do you mean the oat meal we eat? I have a garden and plenty of grass; can I feed the grass and clover green, or ought it to be steeped? I have a bushel or two of dried sweet corn in ear, how can I feed it, soaked or dry?" "Chicken grit" is simply a small sized grit, the size best adapted to chicks and pigeons. Dealers in poultry supplies usually carry two sizes of grit, which is rock crushed by powerful machinery and sifted into different sizes to furnish "teeth" to hens and chicks. Corn and oat chop is corn and oats cut (chopped) up with knives to be about the size of fine cracked corn. Fancy middlings is a grade of middlings between common middlings and flour; any grain dealer or dealer in stock foods could give you this information. Meat meal and beef scraps is butchers' trimmings and scraps of meat, first cooked by steam and then pressed to squeeze out all the fat, then kiln dried and ground into a fine meal or the slightly coarser beef scraps. "B. B. & B." is an excellent quality of meat meal; you can get a sample by writing a postal asking for it to D. W. Romaine, 124 Warren St., New York City. Hulled oats are oat meats; that is, the meats of oats after the hulls are removed; there is no nourishment in the hulls of oats, while the meats are splendid body builders. All kinds of oat meal make fine chick food. Feed your grass and clover green so long as it is green, but have a supply dried (made into "hay") to be steeped and fed for a green food when you can no longer get it green. Your sweet corn is all right to feed dry, but you can soak it and feed it swollen if you prefer. Your question as to ridding your neighbor's hen house of lice is hardly right for us to give space to unless he is a subscriber to the P. F.; our space belongs to our subscribers, because they pay for it! Besides, the lice question was fully covered in the answer to J. F. Eagle in this column, May 9th P. F.

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PROF. W. F. MASSEY, Editor.

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Cotton and Cotton Goods.

The reports of the statistician of the Department of Commerce and Labor show that the exports of cotton this year will exceed those of any other year in the history of the country. If the proportion of the preceding months up to June is kept up the value of the cotton exported will reach $317,000,000 in 1903. At the same time there has been a great increase in the export of manufactured goods, and our own mills have immensely increased in number, and while they have used 875,000 bales in 1870, they took, last year, 4,083,000 bales and the amount used the present year will exceed this. At the same time it is curious to note the great increase in the importation of Egyptian cotton. In 1893 the imports amounted to $5,000,000, but this year it is proabable that they will exceed $12,000,000 worth. Cotton is still king in the export trade of the U. S.

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Alfalfa for Protein.

The Alabama bulletin from which we have quoted in regard to growing protein gave no results from alfalfa hay. It would be interesting for the Stations to take up the feeding value of alfalfa hay in contrast with wheat bran for the dairy cows. We are of the opinion that it will show up as well as vetch, and will make a far larger crop, and one that can be had continually from year to year if the plat is kept fertile. There is another advantage in alfalfa. This is the wide range of climates in which it thrives. It has been grown with success in the cold of Minnesota, where they seem to have a particularly hardy variety, and it has thriven in Florida and on the Gulf Coast westward. Local conditions of soil have more to do with its success than climate, and when the conditions needed by the crop are at hand it can be made a protein supply for the dairyman over a far larger extent of territory than any other legume of equal production. In any event, as we have heretofore said, the dairyman who buys protein will soon be looked upon as behind the times.

Another good reason for growing protein instead of buying it is the miserable quality of much that is sold for bran. Some millers especially in the West, put all sorts of trash that accumulates about the mill into the bran, and the farmer may in this way get a very undesirable stock of weeds on his place. When dairymen generally learn to grow their protein those who have not land enough to do this can get their bran more cheaply and be able to discriminate against the worthless stuff that is palmed off now as wheat bran.

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Grow Your Protein.

The dairyman who buys bran when he has land that will grow vetches, cow peas and soy beans will soon be considered far behind the times. The fact that a dairyman can produce his own protein from crops that improve his soil for the production of crops has been thoroughly demonstrated at more than one Experiment Station. Now the Alabama Station comes with a press bulletin on this subject. It was found that vetch hay proved fully equal in feeding value to a similar weight of wheat bran. The cost of the food, when this hay was used, to make a pound of butter, was 10 cents against 13.4 cents when wheat bran was used. There was less waste in the feeding of the vetch hay than in cow pea hay, but the portion of the cow pea hay actually eaten proved fully equal in feeding value to a similar weight of wheat bran. When the cows were charged with all the pea hay offered them it was found that the cow pea hay had 86 per cent. of the feeding value of wheat bran, one ton of hay being equal to 1,720 pounds of wheat bran. When wheat bran is worth $20 per ton, cow pea hay was worth $17.20 per ton and vetch hay $20. Four and a half per cent. more butter was produced with soy bean hay than with cow pea hay, if we take into account the amount of each actually eaten, but a larger proportion of the coarse stems of the soy bean were left uneaten. The point in the whole matter is that with the legumes the dairyman can entirely dispense with the purchase of wheat bran, while growing a crop that increases his capacity for the production of feed through the direct improvement of the soil by the legumes. As to which of the legumes is the best will depend on the local conditions of the dairyman. Where the cow pea flourishes it will produce a much heavier crop than the vetch. On the other hand, the vetch will flourish further North than the pea, and it is one of the easiest crops to cure, and as shown in the Alabama bulletin, its fine nature enables it all to be eaten. The dairyman should study his local conditions and experiment for himself, feeling sure that in all parts of the country there are legume crops that will free him from the need of buying protein.

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Farm Managers.

It has always been a source of wonder to look over the columns in the papers and to see the numbers who are advertising for places in which to work, and, on the other hand, to note the number of employers who are looking for men to work, and we wonder why it is that these do not get together. The cry of a scarcity of farm help comes from many sections of the country, and yet there are always advertisements from men looking for places, while with the great prosperity that seems to abide over the country it would seem easy for any man who wants work to get it. One great difficulty, we imagine, with the employers is that business men, owning farms for which they wish managers, think that they should get men of experience competent to manage affairs for them for far lower pay than they would think of offering to men competent to manage their city business for them, and while the wages of mere laborers have advanced they think that farm managers should still be had for laborers' wages. On the other hand, there are hundreds of men who are looking for managers' positions who are only fitted to work under the direction of someone else. And it is this class of men which so quickly disgust the employers who are seeking competent managers. Years ago one of the State Colleges of Agriculture was electing a new president. One of the board of trustees advocated the election of a gentleman and urged that he was a farmer of great experience. "What do we want with a farmer at the head of our college?" said the Governor of the State, who was ex-officio chairman of the board. "I can hire a farmer for $20 a month." And here is just the rub. Men of means who own farms have such little faith in improved agriculture that they look upon a farmer or farm manager as a sort of menial who can be hired for little pay, and the result is inefficient help. Men soberly advertise that they want a farm manager and offer laborer's pay, and then stipulate that his wife must look after the poultry for no pay at all. It is not surprising then, that men who are willing to take a place with a wife thrown in gratis, do not prove to be first-class managers. When rich men who own farms realize that it takes years of experience and good education to make a competent manager, and that in getting such a man the employer has no claim whatever for any services but his and that no self-respecting man who is fit to take charge of business affairs will throw in his wife to bind a bargain, we will see less of this sort of advertising, and more real and competent managers for places when the salary for such work is commensurate with its value. There is a growing class of men thoroughly competent to take charge of farm enterprises, but they are not to be had for a day laborer's wages with a wife thrown in, and hundreds are losing money in the employing of incompetent men as managers, because they can get such "farmers" for $20 a month, as the Governor said. Men of experience and brains in any calling can command pay in proportion to their ability, and farming nowadays is no exception. To get capacity you must pay the price for it.

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Good Soil Not Necessarily Black.

Our Iowa friends are so accustomed to associate a black soil with fertility that they are apt to consider a lighter color of necessity poor. A writer in the Iowa Homestead says: "I was in town recently and saw some new potatoes from one of the Southern States, and the dirt that was attached to them was of a nice brick color. This did not indicate a fertile soil." If the writer of that note lived on the Southern uplands he would find that red is the characteristic color of a great portion of the soil and of the very best soil. In many places this red clay loam is hidden by a gray sandy surface soil filled with broken quartz rock of all sizes, the finest kind of macadamizing material. Talking recently with a thoughtful farmer of North Carolina we remarked that we had often said that the blood red soil of the Piedmont hills was all good soil down to the fast rock, and that it was really the best soil in the South. He said that he could corroborate that. On one of his fields, he said, he had let the road supervisor take off the entire upper soil full of broken rocks to make a road with, using it as a macadamizing material. His neighbors told him he had ruined his land. But he plowed it deeply with three mules abreast to a big plow and sowed it in peas, made a heavy crop, and the following year put it in cotton and made a bale per acre. He found that the taking off of the rocky and sandy surface had merely opened up to him the real soil below. In some parts of the country, particularly in the glacier clays of the North, observant farmers like Mr. Terry, have found that subsoiling is of little value, and in such land they are doubtless right, since the level lying clay soon returns to its original condition. But on the red hills of the South there is nothing that so helps in the improvement of the land as deep subsoiling. And nothing so checks the tendency of these red hills to wash into gullies as the deep loosening of the hard clay below where the scratch plowing of the past has gone. The Southern uplands have washed because of shallow plowing more than from any other cause. The clay right below is hard and impervious and the water has nowhere to go but down the hill and take with it the shallow, loose surface. With deep plowing and subsoiling there would be an end to washing if a good system of rotation were practiced, in which vegetable matter was restored to the soil. Properly treated, the red soil which our Iowa friend thought so poor, has been made to produce wonderful crops, and the census reports show that on the red hills of North Carolina the average yield of hay for the past ten years has been heavier per acre than in Iowa, though the Southern farmers do not raise a tithe of what Iowa does, nor what they should do.

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The Cream of the Bulletins.

Maine Agricultural Experiment Station, Orono, Maine. Bulletin 80. Experiments in Orchard Culture. By W. M. Munson.

The experiments were conducted in the orchard of Mr. C. S. Pope, of Manchester, which is situated in the heart of the best apple region of Maine, and was better suited for the experiments than the Station orchard at Orono. In order to study the effects of cultivation as compared with mulching and the use of stable manure and commercial fertilizers, a young orchard of Tallmans and Gravensteins was selected in 1898, in which the trees were eight to ten years old. The trees were planted 25x30 feet apart. The soil was a rocky, sandy, virgin loam pasture with an eastern aspect. No cultivation was given and no attention paid to the orchard until 1898, except to mulch and keep the borers out. An orchard of Kings was next to the plat selected, and this part remains in the same condition in which the whole was when the experiments began. In May, 1898, steamed bone at rate of 500 pounds per acre was applied broadcast over the whole area. Twenty-eight trees received a dressing of a high grade complete fertilizer in proportion of 5 pounds 10 ounces per tree, on an area with a 10-foot radius, or at the rate of 800 pounds per acre. A like number of trees had a heavy dressing of stable manure, one-tenth of a cord per tree on the 10-foot radius. One-half of each lot was put under thorough cultivation, and the other half heavily mulched with meadow hay or sawdust. The following year the complete fertilizer and manure were applied as before. The cultivated part was well tilled and the trees made a vigorous growth. Both lots were markedly better than the untreated area. In 1900 the same fertilization and manuring was applied as before, and the mulch was renewed and the cultivation continued. There was a moderate crop of fruit of which no record was kept. In 1901 the fertilizer was applied again, but no manure. The season was very dry, but the trees made a fair growth, but bore no fruit, except a few Gravensteins. In 1902 neither fertilizer nor manure was applied, as the mulch seemed sufficient as all weeds and grass on the mulched area were held in check. The cultivated part was plowed in June and harrowed twice during the summer. The season was moist and many of the trees made satisfactory crops, though there was a great variation. The cuts show the decided difference between the area left untreated and the areas cultivated and mulched. There seemed to be a wide difference between trees that received the same treatment. In general, the trees on the cultivated area made rather a better showing than those on the mulched area, though the latter would be regarded as vigorous and healthy trees. The number of unfruitful trees on the cultivated area was but half that on the mulched area. On both there was a distinct difference in the habit of the Gravenstein trees, some growing upright and some broadly spreading. Striking cuts are given showing the improvement of the trees from the start. An experiment continued for several years, in the application of potash salts showed that the application had no effect in warding off the apple scab. Further experiments were made in the renovation of an old orchard of Baldwins on which various mixtures of chemical fertilizers were applied. Cultivation had a very marked effect in the improvement of this orchard. Directions are given for the top working of inferior trees and cuts showing how it is done and the results.

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"I have been a subscriber to agricultural papers for twenty-five years, and have been taking The Practical Farmer for about four years, and it gives me pleasure to say it is the best 'all around' paper I have ever seen of its kind. You are right on the question of cow peas, and the only way to have it get a firm hold on the farmer, is to keep hammering away on it."—M. I. Branch, Berzelia, Georgia.

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Close to the Farmer.

One of our subscribers in Indian Territory, J. E. Wolf, Sr., in a recent letter to the P. F., says: "The best feature of the many that commend your excellent journal to me is the long list of personal communications, with full name and address of correspondents. Almost all other journals decry this, but in the case of The Practical Farmer I find it awakens a lot of interest. If I wish to write to some one of the many correspondents relative to his section of country I can do it. It is a good way of bringing your large constituency within reach of each other. Success attend you in your wonderful educational work."

In every respect the P. F. is kept in the closest possible touch with its readers, the feature mentioned by Mr. Wolf being only one of many by which it maintains the closest possible relations with its army of subscribers. It aims to make every subscriber a member of one vast family, always in touch with every other member of the family and getting the benefits which accrue from the weekly interchange of opinions and experiences.

COMMERCIAL

Philadelphia, June 20, 1903.

WHEAT.—		
No. 2, red. spot	81	81½
No. 2, Penna. and Del.	82	82½
CORN.—		
No. 2, spot and June	54½	55
No. 2, yellow	56½	57
No. 3	50½	51
OATS.—		
No. 2, white	45½	46
LIVE POULTRY.—		
Fowls, hens, per lb.	14	
Roosters, per lb.	10	
Spring chickens—		
1½ to 2 lbs., per lb.	20	23
Smaller sizes, per lb.	15	18
DRESSED POULTRY.—		
Fresh killed fowls, choice	15½	
Fresh killed fowls, average.	14½	15
Fresh killed old roosters	10½	
Fresh killed broilers, nearby	27	30
Fresh killed broilers, West.	25	27
Fresh killed broilers, average	20	23
Frozen broilers, Western	15	22
Frozen roasters, choice	16	17
Frozen turkeys, young toms.	19	
BUTTER.—		
Western creamery, extra	21½	22
Western creamery, firsts	20½	21
Ladle packed	15	17
Prints, nearby, extra	22	23
Prints, nearby, firsts	21	
Prints, Western	19	22
EGGS.—		
QUOTATIONS AT MARK.		
Nearby fresh, ret'bl crates	17½	
Western, choice, free case	17½	
So. Western do do	17	
Recrated, 1@2c. above wholesale pric		
CHEESE.—		
N. Y., f. c. small—		
New, choice	11¼	
Fair to good	10½	11
State, part skims, prime	7	9
GREEN FRUITS.—		
Strawberries, fancy, qt.	10	12
Strawberries, average, qt.	4	9
Raspberries, black, pt.	2	3½
Raspberries, red, pt.	4	8
Gooseberries, per qt.	5	7
Whortleberries, N. C., qt.	10	12
Blackberries, per qt.	7	9
Cherries, per lb.	6	8
Peaches, Fla., carrier	50	2.50
Plums, Ga., 6-bas. carrier	1.50	2.00
Watermelons, Fla., car	200.00	300.00
Canteloupes, Fla., crate	1.50	3.00
Pineapples, Fla., crate	1.75	2.25
POTATOES.—		
White, Pa., per bu.	70	73
do New York, per bu.	65	68
do Western, per bu.	55	65
do Southern Rose, pr., bbl.	3.50	3.75
do do do md., bbl.	2.25	2.75
do do Chili, No. 1, bbl	3.00	3.35
Red do do pr., bbl.	2.75	3.00
do do do md., per bbl	1.75	2.50
Sweets, Jersey, per basket	40	50
VEGETABLES.—		
Beans, Nor., per ½-bbl. bas.	1.75	2.00
Beans, N. C., 1-3-bbl. bas.	60	80
Beans, wax, ½-bbl. bas.	1.00	1.25
Beets, So., per 100 bun.	2.00	3.00
Cabbage, So., bbl. crate	1.25	1.50
Cucumbers, So., bas.	2.00	3.00
Eggplants, Fla., box	2.00	3.00
Onions, N. O., bag	1.40	1.50
Squash, So., per 1-3-bbl. bas.	50	75
BEANS AND PEAS.—		
Beans, marrows, H. P., bu.	2.65	
Pea beans, H. P., 1902	2.35	2.40
Red kidney, 1902	2.90	3.00
Scotch peas, per bu.	1.65	
Green peas, per bu.	1.60	
COTTON.—		
Cotton, per cwt.	12.40	
FEED.—		
Bran, bulk, winter, per ton	19.50	20.00
Bran, sacked, spring	19.50	20.00
HAY AND STRAW.—		
Timothy, N. Pa., choice, l'g	21.50	22.00
do Western	21.00	21.50
Timothy, mixed Western	15.00	18.00
Straw, straight rye	17.50	19.00
Wheat	9.50	11.00
Oat	8.50	10.00

PHILA. LIVE STOCK MARKET.

Corrected weekly by Coulbourn & Noble, Live Stock Commission Merchants, 2934 Market Street.

Beef cattle about steady.

Extra steers	5½	
Good steers	5	5¼
Medium steers	4¾	4⅞
Common steers	4¼	4⅝
CALVES.—		
Veal calves steady.		
Extra calves	7¼	7½
Fair to good	6	7
Poor and common	4½	5½
Grassers	3	4
HOGS.—		
Hogs active.		
Fat hogs, Pa., Del. & Md.	6½	8
Fat hogs, Western	8¼	8¾
SHEEP.—		
Sheep steady; lambs easier.		
Sheep, extra	4¾	5
Sheep, good	4¼	4½
Sheep, medium	3¾	4
Sheep, common	2	3½
Lambs, spring	5	7½

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The New York Market Review.

Cotton attracts more attention than any other farm product, and with continued bad reports about crop conditions speculation is running riot here, and prices advancing to such points that dealers are dumbfounded. Spot cotton is quiet, but there is practically none on the market for sale. At present prices mills are afraid to purchase raw supplies, and most of them are simply running on goods bought before the present era of high prices. If the new crop should prove a failure it is predicted that we will see 15-cent cotton again, and those who have a fair crop will make enormous profits. Meanwhile, Liverpool is a slow buyer, unwilling to take stock at current quotations of nearly 13 cents a pound. There is no violent change in the grain market, although the crop conditions occasionally give speculators food for action, and the prices do fluctuate at times somewhat sharply. The winter wheat has suffered considerable by virtue of the wet weather and insects. The interior receipts have decreased a good deal, and the cash offerings are smaller. Exports are quiet at the close, but the total for the week is nearly normal. Corn is far more bullish than wheat. This is due to to the uncertainty of crop conditions, and the fact that the world's supply of corn was never so short, and the demand never more general. Commission houses and exporters are good buyers at every decline. Oats are firm and moving in sympathy with corn, with crop news mostly unfavorable on account of rain and floods. Cash sales here are moderate. Both rye and barley are firm and in moderate demand.

Butter has suddenly increased in supply, and during the past week supplies have poured in steadily from the West. The dry spell in the East has been broken long enough now to improve grass conditions here, and the nearby supply of butter has likewise increased. As the result of these conditions butter has steadily accumulated and weakened. Storage men have taken freely of the best lots, but there has been no exports for the week. The public freezers are pretty full at present, and there is a tendency to wait for further developments. It may be that present prices will recover tone if shipments fall off a little, and exporters show more interest. In new cheese exporters have taken over ten thousand boxes the past week, and the receipts have been over 40,000 boxes. There is no tendency of cheese to accumulate, and the market disposes of all the goods as they arrive. Prices rule a shade higher, and exporters are willing to pay the full asking demands for large size cheeses suitable for their trade. Live spring chickens have not been in very general demand, and the supplies have accumulated a little. Live fowls are firmer than chickens, and the supplies moderate. Dressed fresh killed fowls have been in exceedingly light supply the past week, and prices rule high and firm. Nearby spring chickens, dressed, are in moderate demand and supply, and Western chickens are steadily increasing in receipt. Really fancy chickens from Western points have a good demand, but small and ordinary lots are dull. Tame squabs and turkeys are plenty and dull, and Eastern spring geese have a moderate demand. Receipts of eggs for the past week fell much below the supplies of the previous week, and prices stiffened a little as a result, but as there is no speculative demand there is little prospect of a marked advance. Consumptive demand is hardly able to absorb all the eggs arriving.

Old potatoes are scarce and firm at advanced prices. New potatoes are in large supply, but demand is strong enough to keep prices up. Old onions are scarce and firm, and new onions from all quarters have an excellent outlet at full quotations. The market has been very quiet for domestic and imported dried beans. Most of the sales are within the quotation limits that have ruled for the past month. Red kidneys are easier, and there are scarcely any domestic white kidneys left. Hops are quiet and brewers are taking stock only from hand to mouth, but a little uneasiness about the new hop vines has caused some buyers to make anxious inquiries. Prices for wool are steady and unchanged, but the market is very quiet, with few transactions reported. G. E. W.

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New York, June 20, 1903.

WHEAT.—		
No. 2, red	85	
No. 1, No. Duluth	90⅝	
CORN.—		
No. 2	57	
No. 2, white, f. o. b.	58	
No. 2, f. o. b.	56⅝	
No. 2, yellow, f. o. b.	58	
OATS.—		
Standard white	44¼	
No. 2, white	44½	
No. 2, white clipped	44¼	
No. 2, mixed	41¾	
No. 2, mixed clipped	42⅛	
No. 3, mixed	41¼	
No. 3, white clipped	44¼	
No. 3, white	44	
HAY AND STRAW.—		
Timothy, large bales, cwt.	1.25	1.30
No. 1	1.15	1.20
No. 2	1.00	1.10
Clover, per cwt.	55	90
Straw, long rye, per cwt.	90	1.00
Straw, oat, per cwt.	35	40
BUTTER.—		
Creamery, extra, per lb.	21½	
do firsts	20½	21
do ordinary	18	20½
State dairy, fresh, tubs—		
Fancy, per lb.	20½	21
Firsts, per lb.	19½	20
Ordinary, per lb.	17	19
West. Imitation Creamery—		
Finest, per lb.	19	
Ordinary, per lb.	17	18
Western Factory—		
Finest, per lb.	17	
Ordinary, per lb.	14½	15
Packing stock, solid packed.	14	16
CHEESE.—		
State, f. c., small, choice	10¾	
Fair to prime	8⅞	10⅝
Large colored, choice	10⅜	
Large white, choice	10⅜	
State, light skims—		
Choice	8¾	
Part skims, prime	6¼	6¾
Full skims	2	
EGGS.—		
QUOTATIONS AT MARK.		
State, Pa., and nearby—		
Fancy selected white	19	
Fresh gathered, extras	18½	
Fresh gath'd, 2nds to 1sts	15½	17
Western—		
Fresh gathered, extras	18	18½
Fresh gathered, firsts	16	17
Western, dirties, fresh gath.	13½	14
LIVE POULTRY.—		
Spring chickens, nearby, lb.	20	
Western, per lb.	20	
Southern, per lb.	16	
Fowls, per lb.	14	
Roosters, per lb.	9	
Turkeys, per lb.	11	12
Ducks, average, pair	70	1.00
Geese, average, per pair	90	1.25
Live pigeons, old, pair	30	
Live pigeons, young, pair	25	
DRESSED POULTRY.—		
FRESH KILLED—ICED.		
Turkeys—		
Average best, per lb.	13	15
Old	14	15
Broilers—		
Phila. 2 lbs. av. to pr. per pr	40	50
Phila., 3 to 4 lbs. pair, lb.	30	32
State & Penna., 3 to 4 lbs. to pair, per lb.	26	28
Balt., d. p., 2 lbs., per lb.	24	25
Western, d. p., per lb.	24	25
do scalded	20	24
Fowls, West., scald., sm., fcy	14½	
Dry picked, small, fancy.	14½	
Heavy	14	14½
Southern & So. West., d.p.	14	14½
Scalded, per lb.	14	
Spring ducks—		
Long Island, per lb	17½	
Eastern, per lb.	17½	
Jersey, Pa. & Va., per lb.	16½	17
Squabs—		
Prime, large, white, doz.	2.75	
Mixed, per doz.	2.25	
Dark, per doz.	1.50	
FROZEN.		
Turkeys—		
Young hens & toms, No. 1	17	19
Roasting chickens, large and soft meated	16	17
Average, No. 1	15	15½
Broilers, d. p., No. 1	19	21
Broilers, scalded, No. 1	16	18
Capons, choice, heavy	21	22
Medium size	19	20
GREEN FRUITS.—		
Pears, LeConte	5.00	5.50
Pineapples—		
Indian Rivers, 24s and 36s	1.75	2.25
Smooth Cayenne, per crate	2.00	2.50
Plums—		
Georgia, carrier	1.50	2.25
Muskmelons, Fla., crate, l'g	2.50	3.00
Muskmelons, choice, crate	1.75	3.00
Watermelons, per 100	20.00	30.00
Peaches, Fla., carrier	1.00	1.75
Georgia, carrier	1.00	1.75
Carmans, carrier	2.00	2.50
Strawberries—		
Gandy Prize, per qt.	8	12
Oswego County, per qt.	10	15
Jersey, per qt.	5	10
Up river, per qt.	8	13
Blackberries, N. C., per qt.	6	8
Huckleberries, large blue.qt.	12	14
Small, per qt.	10	11
Gooseberries, per qt.	6	
Raspberries, Del. & Md., pt.	7	10
Jersey, per pint	7	10
Currants, per qt.	8	10
Cherries, white, per bas.	35	50
Black, per bas.	70	80
Sour, per bas.	50	60
Small stock, per lb.	3	4
VEGETABLES.—		
Asparagus—		
Colossal, per doz.	4.00	4.50
Extra, prime, per doz.	3.25	3.75
Prime, per doz.	2.00	2.75
Cull, per doz.	1.25	1.50
Lima beans, Fla., crate.	3.00	5.00
String beans		
Wax, per 1-3-bbl. basket	50	1.00
Green, per basket	1.00	1.50
Beets, per 100	2.00	4.00
Cabbage—		
Baltimore, per bbl.	1.75	
Norfolk & So., bbl. crate.	1.25	1.75
Carrots, old, bbl.	2.50	3.00
Per 100 bun.	2.00	2.25
Cauliflower, L. I., bbl.	2.00	3.00
Corn, green, bas. or crate	2.50	3.00
Cucumbers, Fla. crate or bas	1.75	2.00
Char. or Sav., bas.	2.00	2.75
Eggplants, box	2.00	2.50
Lettuce, nearby, per bbl.	1.00	1.50
Okra, bbl.	1.50	2.00
Peas, L. I., per bag	75	1.25
Buffalo, per bas.	1.00	1.50
Peppers, green, Fla., crate	1.50	2.00
Radishes, per 100	50	1.00
Rhubarb, per 100 bunches	1.00	1.75
Squash—		
So., white, bbl. crate	1.00	1.25
Marrow, bbl. crate	1.00	2.00
Tomatoes, So., fancy, car.	1.50	2.25
Tomatoes, Crystal Spgs. tray	80	90
Onions—		
So., basket	1.00	1.25
Texas Bermudas, crate	1.90	2.00
New Orleans, bag	1.40	1.50
POTATOES.—		
Southern, Rose, prime, bbl.	3.00	3.50
White Chills, prime, bbl.	2.50	3.25
Red Chills, prime, bbl.	2.50	3.00
Southern seconds, bbl.	1.75	2.25
Southern culls, bbl.	1.25	1.50
Old domestic—		
In bulk, per 180 lbs.	2.50	3.00
Per 168-lb. sack	2.50	2.75

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WOOL PRICES.

[From COATES BROS.]

OHIO, PENNA. & W. VIRGINIA FLEECE WASHED.	
XX and above	30@31
X	27@28
Medium	29@30
Quarter blood	28@29
Common	25@27
UNWASHED (light and bright.)	
Fine	19@22
Medium	22@23
Quarter blood	22@23
Coarse	19@20
UNWASHED (dark colored.)	
Fine	16@17
Fine medium	17@19
Medium and quarter	18@20
Coarse	17@18
COMBING AND DELAINE FLEECES.	
Washed fine Delaine	32@34
Washed medium	30@31
Washed low	28@29
Washed coarse	27@28
Unwashed medium	23@24
Unwashed quarter blood	23@24
Braid	20@22

The Home Circle.

Edited by Velma Caldwell Melville, Sun Prairie, Wis., to whom all communications relative to this department should be addressed.

Prize Offer.

For the best five contributions sent us before August 7th, one dollar each. Please do not cramp your writing. Leave room for the insertion of possible corrections. We do not care for large margins. Write something of mutual interest something that will in some way help somebody. Send direct to Sun Prairie if you wish to be considered a contestant. One person can compete with as many pieces as he or she desires. Do not ask for return of MS.

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A Toast.

MARION MC'CONKEY.

Here's to the hen!
She helps to lift the mortgage,
She fills the pocketbook;
She sends the boy to college;
She's the standby of the cook.
Oklahoma City, Okla.

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Editorial Chat.

If we could all do as well as Aunt Araminta of Millington, Md., what a lightening of the burdens at the Christian Home. She is one who has dedicated her Sunday egg money to it and these amounted to 29 dozen during March, April and May. For these she sent to the Home $4.25. Pretty good showing. It does seem as if every one ought to be willing to let their hens work for the Lord on Sundays.

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In a recent letter from Willie Jane Sheppard, Wedowee, Ala., she says:

"Dear Mrs. Melville: Will you permit me to thank the dear H. C. friends through the columns of the P. F. for their kindness to me? I have received letters, stationery, stamps and reading, and Miss K. Stevenson, of Fordyce, Ark., sent a dress. They have thrown much sunshine into my dark life. I am incapable of expressing my gratitude. How much cheer those letters brought me! Just a little ray of sunshine, what a wealth of joy it brings to my eyes long used to shadows. How its memory fondly clings. I pray God's infinite blessing on you all. I hope all will write again, for a letter means much pleasure for me, as I see little of the outside world. Again I send my heartiest thanks for the many kindnesses."

"May the God of Heaven bless thee,
From His ever boundless store;
May the fulness of His presence
Be around thee evermore."

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We were much interested in looking over an exchange that had a "special" on the subject of "How Girls can Earn Money on the Farm." Many writers had participated and we will just mention a few occupations given, none new, perhaps, but the list may act as a reminder or stimulus. One writer—a man, too, says: "Give the girls an interest in the stock on the farm the same as you do the boys. Start with a pig or calf or something." Another suggests poultry, as we might expect, but on farms where the poultry has to meet grocery bills, this matter is not so easily adjusted. Another: "I have known girls who made a success of raising varieties of bedding and window plants, and selling slips and potted plants." Another suggests bees; another gardening; another teaching music; another going out to sew at $1 per day; another canning fruit for the market and making jelly; another suggests for Southern girls, raising cotton; another, raising strawberries; another, onions, and so on. In these days when help indoors or out is so hard to get, it seems to us that every farm girl can find employment at home and parents can afford to pay and pay reasonably well for said services after, we may say, sixteen years of age. One man has an apiary, and his eldest daughter has charge of it, taking "shares" in payment, until now she has quite a partnership, and sells enough honey to put money in the bank annually. His second daughter takes to machinery and horses, and acts as his assistant on the farm, and she, too, is putting money in the bank. The third daughter is still young, and assists her mother in the house but not for regular wages yet. But no, the average farm boy or girl "goes off to school," graduates in football, basket ball, dancing and a few other up-to-date accomplishments, and then, of course, they won't work on the farm. Hired help cannot be found and either the parents slave themselves to death then or sacrifice everything and move into town.

Farmer friend, why don't you bring your son up a farmer? Why don't you bring your daughter up to make a good wife for a farmer? Train them at the college where they teach something besides athletics. Talk to them from the start as if, of course, they would follow in your steps. Interest them in the future of the place. Teach them that day by day they are—or ought to be—doing something toward bettering the old home. Make them co-laborers and co-sharers in the products of the farm.

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In the Kitchen.

Mrs. T. L. Murphy, Sequin, Texas, writes: I will give some of my choice recipes.

CUCUMBER PICKLES.—Wash small cucumbers and pack in a jar. Cover with boiling water and let stand over night. Drain off the water and measure it; get same amount of vinegar. Add one cupful of salt and one-half cup sugar to each gallon of vinegar. Add spices and boil. Pour over the cucumbers while boiling and let stand three weeks, then boil vinegar, turn over cucumbers; seal.

TOMATO PICKLES. Cover 6 quarts of sliced tomatoes with water; add one cup salt and let stand over night. Drain. Take enough vinegar to cover; add one pint sugar to one quart vinegar and let boil. Then put tomatoes in and cook tender; take out and add spices to vinegar and let boil until just enough to cover tomatoes. Pour over them and seal jar tightly.

PICKLED GREEN TOMATOES.— Scald them and let stand over night. Drain and nearly cover with molasses. Leave in a warm place and when a scum rises on top remove it. When the scum ceases to rise on top, seal. These tomatoes are excellent.

TOMATO SOY. Slice a peck of green tomatoes, sprinkling through them one pint of salt and let stand over night. In the morning drain and put in a kettle with 12 chopped onions, two tablespoonfuls mustard, one tablespoonful each of pepper and allspice, one-half pound mustard seed and one-quarter tablespoonful cayenne pepper. Almost cover with vinegar and cook to a jam, stirring often. Cook four hours.

CHILI SAUCE.—Chop fine six tomatoes and two small red peppers; add two cups vinegar, one tablespoonful each of brown sugar and salt, and two onions. Cook slowly four hours and when nearly done add 1 teaspoonful each of cinnamon, cloves, ginger and celery seed.

GREEN TOMATO PRESERVES. — Slice green tomatoes. Make a syrup of one pound sugar to one pound of tomatoes. Put sugar and water to boil, and when clear add tomatoes and cook until tender. Slice a lemon and cook in a little water until tender, then add lemon and water to the syrup and seal.

PEARS, ETC., PICKLED WITH SKINS ON.—For every seven pounds of fruit allow three pounds sugar and three pints vinegar. Cover pears with cold water and let boil. Take out and add sugar to water. Boil 15 minutes, then add vinegar and spices. After they have boiled put pears back and cook until you can run a straw through them; seal.

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Mrs. M. C. Thompson, Clover Orchard, N. C., sends a few recipes:

TO CAN BEETS.—Pull up the beets, wash clean, boil until tender. Take out of the water and peel as soon as they are cool enough to handle. Have the vinegar on the fire warming and drop in it as soon as peeled. Have the cans warm, also. As soon as the beets come to a boil, place in the can with vinegar enough to cover them, and seal as other fruit and they will be just as nice for Christmas as they are in June.

TO MAKE ARTIFICIAL HONEY. — Take five pounds of sugar, one pint of strained honey, one quart of water; put water and sugar in kettle and boil it ten minutes, then set it off and stir the honey in. We think this honey is better than pure honey, only when it is fresh.

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A Sketch With a Moral.

L. A. STOCKWELL.

John Green, at the time this story commences, in 1869, was a thrifty Indiana farmer. His farm of only 80 acres was highly cultivated and yielded him a good income over all expenses. He was a thorough business man and understood how to run a farm with hired labor and make it pay. His family consisted of his wife and a daughter, just budding into womanhood. Mr. Green might have had a much larger farm and a much larger bank account had he considered money getting the principal object in life, but he did not. Before his marriage he resolved to pursue a course that would result in happiness, if possible. It so happened that while a single man he boarded in a great many families for a shorter or a longer period. In only one of them did he find that love and tenderness and affection due from the various members of the family to each other. In all the rest there was something to mar the happiness that should exist around every fireside. In many of them greed for more land, resulting in debt, overwork and privation were the cause. "Can't we fix up the house a little, James?" "Can't the girls take music lessons?" "Can't the boys have better clothes?" "Oh, no! I'm in debt. Wait until I get out," were samples of futile requests overheard but too often. This and the pitiful sight of overworked, poorly clad, unloved wives, prematurely old, wrinkled and gray, made him determine to avoid the causes of so much unhappiness.

"I'll never marry until I have a home of my own. Then if I can find a lovable woman who will marry me because she loves me, I'll try to so live as to merit her love for all time. She shall be a companion and not a slave." Twenty years after this resolve brings us to the year 1869, when our story commences. Mr. and Mrs. Green, hale and hearty, and their daughter Lucy, a picture of health and beauty, had never taken a dollar's worth of medicine. Right living, cleanliness, abstinence from strong tea and coffee, plenty of exercise in the open air, where she could expand her unrestricted lungs to their fullest extent, gave to Lucy a beauty of complexion rarely seen.

"Mollie" said Mr. Green one day after his return from G——, "I saw a young man today that I should like to have Lucy get acquainted with."

"Why so, John, and who is he?"

"I don't know who he is, but he soiled his nicely polished shoes by wading into deep mud to help an old lady who had lost her overshoe. He put it on for her, helped her to the sidewalk, handed her basket to her, bowed and hurried away."

"Did you find out who she was?"

"No. She was poorly but neatly clad, as was the young man."

"Would his kind deed alone justify you in introducing him to Lucy?"

"Ordinarily, no; but there was a something, difficult to describe, about him that made me like him. He was so kind and pleasant and polite and modest about it all."

"And who is he?"

"All I know is, that Mr. Langdon, the book dealer, says he is a student in the University. Lucy is seventeen, and it might be well to let her get acquainted with him if it can be so arranged without her suspecting that we are too much interested."

A few weeks afterwards Mr. Green's family went to the little country school house one evening to a debate, as it was called. Getting well up in front, Mr. Green was agreeably surprised to see, in the person of one of the debaters, the hero of the muddy crossing. His ability and eloquence added still more to Mr. Green's admiration for him. Mrs. Green and Lucy were also much pleased; he seemed so fair and convincing in his argument. During the debate he saw and studied Lucy's face; in fact, fell in love with her then and there. As they were preparing to go home he came forward, and extending his hand to Mr. Green, said, "You are Mr. Green. My name is Harlan. Pardon me, but would it be asking too much to beg you to introduce me to these ladies, whom I am told are your wife and daughter?"

"With pleasure," said Mr. Green. To make a long story short, three years afterwards Mr. Harlan graduated from the University with honor, and was soon after united in marriage to Lucy. Among the presents received upon their wedding day was a joint deed to the 80-acre farm, Mr. Harlan having relinquished his original plan of entering one of the professions, the beauties of rural life, as exemplified on the farm of Mr. Green, having made him decide to be a tiller of the soil. "Lucy," said Mr Green the day before the wedding, "your mother and I are going to occupy our house in town, thus leaving you and Richard to yourselves. In order to test a theory that I have long entertained, I have made an investment that will yield five dollars a week, which sum you can draw from the First National Bank of G—— by check, provided that a three-dollar check is made payable to some elderly woman (your housekeeper) every week. The two dollars you draw yourself. If, for any reason, your checks are not presented during the week the five dollars for that week is forfeited by you. As to the disposal of the two dollars, I would suggest that you use one for pin money and the other to pay one of Richard's hands for cleaning, harnessing and hitching up your driving horse every morning. By having your vehicle always ready you will do much more riding than you otherwise would. For three dollars a week you can hire a capable woman who will be glad for a good home. As her pay comes from you, and is lost to you if not so used, Richard cannot interpose, even if so inclined, any objection. By having her help, you will have time to keep up your music and reading, thus keeping in touch with all that is going on. By reading current literature and good books you will keep yourself thoroughly informed, not only as to what is going on in the outside world, but in regard to agriculture and such things as Richard takes an interest in, in a business way. Not only will you be enabled to keep up with your husband intellectually, but you will have time to make your toilet and keep yourself attractive—something you must do if you would hold your husband's love and respect to the end. You have often heard me speak of the unhappy families that I have been brought in contact with. If you would avoid the maelstrom that has engulfed the happiness of so many households there are three things you must do. The first and most important, and most difficult, the one requiring the most tact and nicety of discernment and good judgment, is to avoid satiety. Intemperance is bad anywhere but doubly so in married life. Avoid all forms as you would the plague. It produces indifference and disgust, followed by aversion, scalding tears, recriminations, upbraiding and often divorce. If not, on account of children, then a life besides which death would be a pleasure. The second thing to do if you would be happy, is to keep out of debt. The third is to keep the freshness and beauty of youth as long as possible"

In 1894 Richard Harlan, his wife and two daughters, one seventeen, the other fifteen years of age, occupied seats well up in front in Tomlinson Hall in Indianapolis, to hear Patti sing. Just before the exercises were over an usher handed Mr. Harlan a card.

"Will the gentleman, his wife and daughters come upon the stage?" signed "Patti."

They wonderingly followed the usher and were met by the great singer just behind the curtain. Extending both her hands to Mrs. Harlan, she said: "Excuse me, but I wish to meet face to face the most beautiful woman I have ever seen. The daughters' resemblance to you and your husband makes me believe that you bear this relationship to each other. Am I right?" Being answered in the affirmative, this most beautiful of women, who had sung before all the crowned heads and in every large city of the world, kissed Mrs. Harlan and her daughters, shook hands with Mr. Harlan, thanked them and turned away. Need we point the moral?

SAVE YOURSELF, Save your money, save your clothes, by writing for the information given FREE of charge by The 1900 Washer Co., 23 R State St., Binghamton, N. Y.

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BAD BREATH

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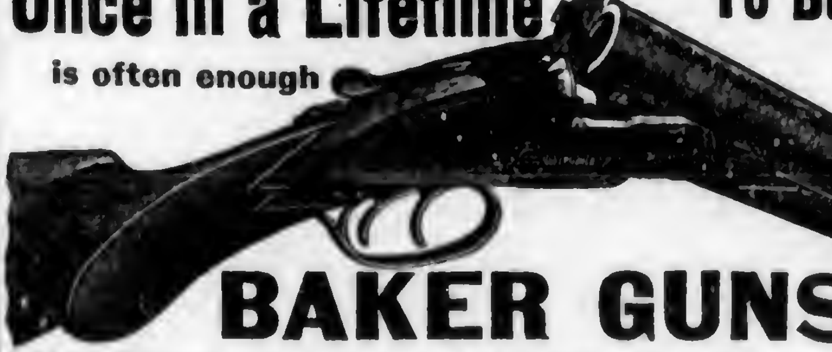

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BAKER GUNS are the favorites of shooters who want a thoroughly reliable gun for hard, all around service. They are always up-to-date and combine with the best qualities of other makes the important feature of absolute safety. They are sold at prices which give the best possible value for the money. We will send you our Quarterly describing Baker Guns and full of interesting reading for sportsmen, free a year on receipt of postal. BAKER GUN AND FORGING COMPANY, 49 Liberty St., BATAVIA, N.Y.

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Some Bird Notes.

T. M. THORPE.

I moved to a farm of 25 acres, 4 miles east of Norfolk, in November, 1899. It is a pretty place on E. Elizabeth River, but the soil is worn though originally perfect; a sandy loam resting on red clay a foot below. As this country was settled in 1613, you can imagine the many generations and crops that have here succeeded one another. One feature is an orchard, planted probably 30 years ago, or over. It was much run down, and for two seasons I engaged in the gratifying labor of pruning and fertilizing it. The next autumn it responded nobly and I am sure my hundred trees had a larger and finer crop than ever before since its heyday when 15 years of age. No small part of my success I attribute to the birds. I never shot at nor near them except on rare occasions when a hawk made a foray. And now the "raptores" have learned to give me a wide berth. Several times I have seen two bald-headed eagles soaring 2,000 feet above, screaming to one another like the hinges of an unoiled door. Their "bald" or white heads were distinctly and characteristically visible. They looked for all the world as if they had just stepped out of a newly minted 20-dollar gold piece. They seemed too sublime and poetical to be real. I should not have been more surprised if the Goddess of Liberty on the Capitol had gone sailing away or if a cigar Indian were to step down from his pedestal with a war whoop. Unless caught in actual hen or infanticide I could not bring a gun to bear on the embodied National emblem. The owls are less satisfactory. The two kinds, hoot and screech, have been heard on many nights, but not seen. In the morning several times, torn chickens and guineas, or piles of bloody feathers have shown the results of their sociability. By the way, can any of our P. F. family tell me how first to find and then get rid of them? Now and then a blue crane flies up, dragging its stilts behind; the marsh hen cackles and the fly-ups, or rarer king fisher vary the rural scene, but too many "gunners" of both colors abound to allow the existence of more than an occasional trace of all this graceful aerial and marine concrete romanticism. When will our school children learn lessons of wisdom adapted to the heart and imagination and not to the mercantile intellect only? Being on salt (tide) water I should see and hear countless sea gulls, the very essence of Neptune's mystic realm. But alas, they are rare visitors and soar high! "Gentle woman's" craze for plumes is depopulating seashore morass and mountain. Will they not pause and think of the dreary waste they are making our very globe, when a bright ribbon and bunch of flowers would be just as lovely—and without any blood stains? Wild ducks are seldom seen in this, their native habitat, and no wonder. The advent of even a single specimen arouses almost every man and boy the whole length of the river front. A booming bombardment reechoes over the water almost as successive as the discharge of a pack of firecrackers. Birds are things of beauty yet we can silence and efface it all to kill and eat even to the point of extermination! So did the old Roman tyrants. They had no ear for the nightingale's song; but instead they slew him and stewed and gormandized the beautiful tongues that can thrill the truly converted almost like the angel songs in Bethlehem!

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Among the Flowers.

ROSIE L. M. TULL.

Someone asks for a pretty hardy vine, suitable for a sunny porch. Doubtless there are others looking for the same thing. There are such a variety of vines; those that spring from the seed each year, such as morning glories, sweet peas, flowering beans, wild cucumber, cypress and others; those that grow from bulbs — Madeira, etc.; those that die to the roots each autumn and spring up anew each spring, cinnamon vine and the like; and those that drop their leaves in autumn, only to send forth new ones in the spring, and whose stem or vine is of a woody substance, trumpet, rose, honeysuckle. There are so many of each kind that space prevents discussing them all at once, so will not attempt it. Of the latter kind I think I would prefer the honeysuckle, the white and yellow variegated sort. It is a very pretty vine, with a woody stem so slender and pliable that it can be trained as desired. Its foliage is of a pretty dark green, and, judging from the way it holds its foliage in this locality, it would be green all the time in a little warmer climate. In the North its top would need a little protection, no doubt, but here it needs none. It climbs nicely and looks very pretty when trained beside a porch, though it has a tendency to creep, and as its stems are so very small will not attempt to climb without support. Its tendency to creep only makes it appear to a better advantage when trained to climb. It blooms several times during the season. The blossoms are very pretty, a pure white when open, changing to a buff and having a very strong, fragrant perfume, which seems stronger after a shower. The blossoms are not in clusters, but appear near the tips of the branches (generally two), just above each leaf. Thus bloom and foliage are prettily confused. All who are looking for a sunny porch vine, will find this one quite suitable, as it will make a thick sun screen, if desired, and in most cases needs but a trial to prove satisfactory. In a small town not far distant, some of the residents have it trained over a woven wire fence, making a very pretty green lawn fence. They are quite common in this locality. Now that you have some idea of the plant, let us set out a small one. Select your location, dig a cavity one and a half or two feet in diameter and one and a half feet deep. Mix well rotted manure with the soil removed, quantity depending on fertility of the soil; a little sand if the soil be very heavy. Fill cavity and press down lightly. With the hand scoop out a small quantity of dirt in the centre, in which to set the plant, making it deep enough so it will be a little deeper in the ground than it was previously. Draw some dirt over the roots, then give a little water and draw sufficient dirt around the plant. Press down lightly and it is set out and needs no more attention until it grows enough to be trained. Smooth wire makes the best support for the vine when trained beside a porch that is much used. Those who object to the dormant branches of the honeysuckle during the winter, but want a vine whose top dies to the ground each autumn, the root living, will no doubt find the cinnamon vine satisfactory. It is hardy.

Walker, Mo.

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The Value of Good Cooking.

Nothing is more pleasing to the appetite than a table spread with dainty, wholesome food. It is not always the simplest or the best, but the most wholesome and seasonable foods that are the most appetizing. The family table stands in the inner court of the home temple. Priest and priestess should guard the integrity of its supplies. In civilized countries bread is a part of every meal, and if poorly made the mischief will be in proportion to its universal use. Good cooking is a duty. The housewife should ennoble her calling; make a study of the science of dietetics and put into practical use her knowledge of an easy preparation of meals that are not only palatable but contain the protein and carbohydrates so necessary for perfect mental and physical nutrition. It is the duty of wives and mothers to make themselves intelligent concerning sanitary laws. What we eat aids the demon or angel side of human nature. The inference is that "pledge signing" effects better results when the appetite is satisfied by food not only nutritious, but savory and varied.

It becomes necessary that the mothers, wives and sisters of our land counteract the craving for alcoholics; that they supply plenty of nourishing, enjoyable, well cooked food. Housekeepers, by the food they provide, by the couches they spread, by the books they introduce and by the influences they bring around their homes, are deciding the physical, intellectual, moral and eternal destiny of the race. The palate has much to do with the world's good and evil. If we blot out of the history of the race the evils evoked by appetite, uncontrolled and misguided, eliminate the effects of distilled drinks in all its forms, what a great and blessed blank you leave in the story of the world's want, woe and sin! Put into that blank the story of what good food, properly prepared, has done in helping to build men's bodies into fit temples for their souls, and see what you have added to the world's credit side of the true and beautiful.

How often has a religious peace of mind, a spiritual serenity and a fair confidence in business been utterly destroyed by poor bread, pie, or too much poorly cooked beef. He who would have a clear head must have a clear appetite. The woman who has never made a temperance speech or written a temperance article, may make the influence of her white ribbon as deeply felt as writer or speaker, if she knows how to make her bread light and sweet, her butter golden, her vegetables toothsome, her canned fruit delicious and her meats cooked so that all of their flavor is brought out. The woman who is to be happy and useful as the maker and mistress of a home, must know the art of home making, home ruling and good cooking.

May the high thinking that consorts best with plain living be a well known "way to win" among the maidens of America. It is an encouraging fact that young women are beginning to pride themselves on their good cooking. It is far better to be a queen of the kitchen than a languid parlor sentimentalist. And in order to acquire this it becomes necessary to have a good cook. Good cooks are said to be almost as sensitive as good actors. This is a fact that master and mistress might recognize with profit, for praise will stimulate to a development of hidden abilities. Good cooking should be reverenced as a great blessing. "All labor of man is for his mouth, yet his appetite is not filled; every man should eat and drink and enjoy the good of all his labor; it is the gift of God." When one comes home from the tired hum of business, nothing can cheer the mind and body as a good dinner.

"Our various cares in one great point combine,
The business of our lives, that is to dine."

[We have lost the name of the author of the above. Please speak out.—ED.]

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Youth's Parliament.

Exie A. Hines, Howell, Tenn., sends the following quotation for our Band of Mercy:

"A man of kindness to his beast is kind,
But brutal actions show a brutal mind;
Remember He who made thee made the brute,
Who gave thee speech and reason formed him mute.
He can't complain but God's all-seeing eye
Beholds thy cruelty and hears his cry—
He was designed thy servant, not thy drudge;
And know that his Creator'll be thy judge."

[We shall be glad to hear the story of Philip, Exie.—ED.]

The Care of Blankets.

Never let blankets remain in service after they are soiled; dirt rots the fiber and invites moths. Because of the peculiar saw-tooth formation of wool hair it is necessary that a pure soap, made of the best materials, be used; a cheap soap, especially one which contains rosin, will cause the blanket to become hard by matting the fiber.

To Wash Blankets and Retain their Softness.

Dissolve shavings of Ivory Soap in boiling water, add cold water until nearly lukewarm. Immerse a blanket and knead with the hands; rinse in clean warm water in which also some Ivory Soap has been dissolved. Dry in a place that is neither very warm nor very cold.

Our Experience Pool.

"Experience is the best teacher." This Experience Pool will be a weekly Farmer's Institute for the exchange of practical ideas by practical farmers. We want them to give their experience, as well as suggest topics for future discussion. We publish this department so that all may have the benefit of the tangible, practical experience of others on every subject pertaining to the farm. Let all contribute. A cash prize of 50 cents will be paid for the best contribution, 25 cents for each other contribution published. The only condition is that you are a yearly subscriber to the paper. Write on one side of paper only. On upper left hand corner mark plainly the number of the topic you write about. Articles on all topics must be in our hands at least three weeks before publication. Do not forget to suggest ahead topics for discussion. Address all communications to THE EDITOR, Box 462, Raleigh N. C.

Topic No. 580, July 11.—*If a Man Has a Farm paid for and Land is Cheap Around Him, Should he Buy More Land or Invest His Savings in the Further Improvement of What he Has?*

Topic No. 581, July 18.—*Is It Best in the Central West to let Clover run two Years or Only one? Will It Improve the Soil More in two Years Than in one?*

Topic No. 582, July 25.—*How do You Make Cider and Cider Vinegar, and How do You Keep Cider Sweet?*

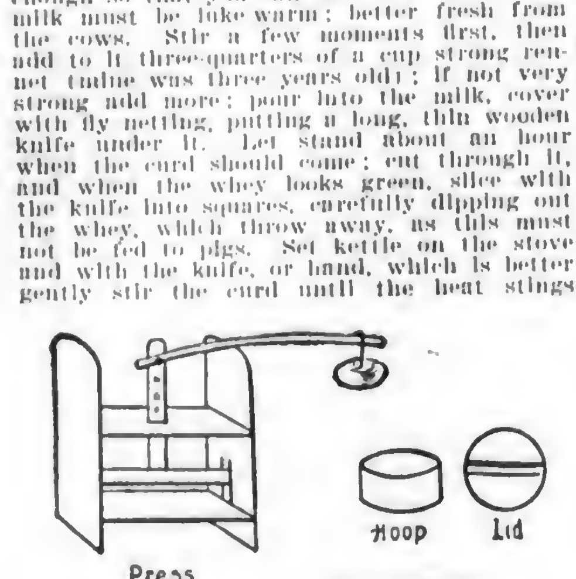
Topic No. 583, Aug. 1.—*Can Farming be Successfully Done in the South Without the Use of Commercial Fertilizers?*

Topic No. 584, Aug. 8.—*How Have You Succeeded Best in Exterminating Prairie Dogs?*

Topic No. 585, Aug. 15.—*Will the Ladies Tell us How They Manage Cucumber Pickles, Sweet or Sour?*

Topic No. 578.—Experience in Cheese Making on the Farm. How do You Make and Cure and Keep it, and What Kind of Rennet do You Use?

S. E. Kellogg, R 19, Danbury, Conn.—First make your rennet, which will improve with age. Take the stomach of hogs, if possible, better than pigs. Get some of calves also and treat as follows: Soak and clean well two days, changing the water twice a day, then drain. Put a thin layer of rock salt in a stone jar, add some of the rennet alternately until the jar is filled; then add a few sage leaves on top; cover jar and set in cellar, where it will make a brine which will be the fluid rennet for your cheese. Do not disturb until used, when if the brine is scant add a little water and set away for another time. It will keep for several years, improving with age. If you cannot get calves' stomach at the same time, add it later, or the hog's alone will make good cheese. For a good sized cheese take forty quarts of fresh milk, or use twenty quarts of night's milk warmed and added to the morning milk; put in a clean brass kettle or other vessel large enough so that you can set on a stove. The milk must be luke warm; better fresh from the cows. Stir a few moments first, then add to it three-quarters of a cup strong rennet (mine was three years old); if not very strong add more; pour into the milk, cover with fly netting, putting a long, thin wooden knife under it. Let stand about an hour when the curd should come; cut through it, and when the whey looks green, slice with the knife into squares, carefully dipping out the whey, which throw away, as this must not be fed to pigs. Set kettle on the stove and with the knife, or hand, which is better gently stir the curd until the heat stings your hand; take off and dip into a piece of cheese cloth to drain. I have a basket made of wide splints with low sides and a flat bottom, putting a little ladder under it over a tub, into which I put the cloth and dip in the curd, letting the whey run out slowly; leave a few moments, when cut a little, gather up the cloth, pushing the curd together until you can twist the ends of cloth, when curl it up and turn the cheese upside down, placing a stone on top. Drain one hour, cut up fine and salt to taste and put in a hoop, put in a press and gradually adjust the weights; let stand over night. In the morning take out and chop very fine, adding a little more salt if needed. Take fresh piece of cheese cloth and put in the hoop again, putting a round piece of cloth under the lid, smoothing carefully; place in press, adding heavier weights. After standing about 12 hours take out and turn over, trimming edges smooth and turning each time, using a clean cloth each time. When pressed so the edges are smooth cut a strip of cheese cloth to fit around sides of cheese a little wider than the cheese, which smooth down on top and bottom of cheese, adding a circular piece of cloth for top and bottom of cheese. Put in press and press firmly so cloth will adhere to the cheese, and when the cheese looks dry take from press, rub with butter all over for three weeks, turning over and rubbing with the butter every day at first, then alternately. Put the cheese during this process where you are sure the little flies cannot get into the cheese, as they are your enemies in making cheese. We find our cheese keeps well if not available, as it seems to disappear very rapidly when on the table. If your whey does not turn a little green add more rennet, as you have not enough in. The best cheese depends upon the right quantity of rennet. Pack cheese in oil paper in boxes.



Irvin G. Miles, Berwindale, Pa.—We have had some experience in cheese making on the farm. We take a little piece of the lining or rennet of a calf's stomach; soak it in the evening, and in the morning put milk in a tub and put rennet in it and leave it till it forms a thick curd. Then take a knife and cut it in pieces, so that the whey will come to the top. Dip it off, then take a board with a groove in it around the inside of the hoop to allow the water to run off. Put a cheese cloth in the press and put the curd in it and fold the ends of the cloth in nicely. Put a lid on it that will fit down in the hoop, and put a weight on it. Take it out and turn it a few times, so that the whey will be well pressed out. Wrap it up in cheese cloth and make a muslin poke and hang in dry, cool place and there will be no trouble to have good, sweet cheese. Age improves it. We always use the lining of a veal calf stomach for rennet.

Mrs. Maria Muller, Cardiff, Ala. — For cheese making I only use sour milk, then I need no rennet, and it is only a by-product. (I make only light bread; we drink no buttermilk, and I feed no sour milk to pigs.) I warm the milk sufficiently to separate the curd from from the whey. This is done without trouble through a vegetable strainer or a flour sack. When the curd has drained to a compact, soft mass I turn it into an earthen milk crock, salt it to taste and knead it with a large, strong spoon into a smooth paste. Then I mix it with one-third its bulk of sweet cream or butter, form the whole into little cakes the size of large biscuits, and set them on a cloth-covered board or a tray of galvanized wire netting, in a shady draft. I paint them with butter every day, to keep mould away; turn them onto a dry cloth until they are outwardly dry, which will be in two or three days. Then I put them into a covered stone jar in the cellar to season. In a month to five or six weeks they will be ready to eat, of a semi-transparent, creamy appearance, one-half their original size and are quite appetizing. Cheese of this kind, flavored with caraway seed, is very popular in some parts of Germany, and on sale in stores and restaurants. At first I used to make the curd into but one cheese of 10 to 15 pounds; kept it in a wooden hoop in the cellar; but it is much more trouble and takes longer to season. Then there is the so-called cottage cheese, made exactly like the little cakes, but not left to season and not formed into cakes, on account of its looser texture.

Lizzie J. Ward, Chestnut, Va.—I write this for benefit of the very poor, who, like myself are trying to help pay for a home, but at the same time like to set a good table. Mother paid 25 cents for two calves' stomachs, but only one was fit to use. This was well salted and hung in the well. She then sent me a rather small piece of this old-fashioned rennet. I put it in a bowl and poured almost a pint of water over it and put in a cool place for several hours. We had the milk from two good cows, except what was needed for a calf, a little pig and a family of four. The night's milk was strained in a dish pan holding about four gallons. Less than half a pint of water off the rennet was poured into the milk and thoroughly stirred. The pan was then set on the stove, and the milk heated about the same as dishwater. It was then set away and allowed to cool. Once in a while I would slightly press on the milk to see if the curd was formed. This can be easily told by the firmness of the milk. When ready to cut, take a knife with a thin blade and cut in half-inch strips, then cross, and you have it in squares. Now let stand a few minutes before doing any more. When the whey looks clear, or rather greenish, it is right. Take a saucer and dip the whey off as dry as possible. Then with a sharp knife cut the curd very fine. Put this in a bucket and let down in the well to keep cool. In the morning proceed just the same as the evening before. Now thoroughly mix both curds and sprinkle over all a tablespoonful of fine salt. I had no hoop or press. For a hoop I took an old 6-quart tin bucket without a bottom, spread a piece of very thin muslin in this and pressed the curd in it. For a press, husband nailed a short piece of heavy board about 2 feet above the porch floor, set an old chair with a clean board on it a short distance in front of this, placed the tin bucket on the clean board, drew the cloth carefully over the top, put a round board on this (not quite so wide as the bucket) and a block of wood on the board. Then took a long board, placed one end under the strip on the wall, let the board pass over the bucket, and at the other end put a stone on the board. After awhile increase the weight. After noon turn the cheese and press again. Turn three or four times and press until the next afternoon. Take out of the press and grease all over with fresh butter. I had no place to keep my cheese secure from skippers. So I got a nice, smooth board about one foot wide and three feet long, bored three holes along each side, got three small hickory withes, and stuck in the holes in the board in such a way that the withes bent up like hoops. I then took about 2¼ yards of very thin muslin and made a sack to draw over this board. I put my cheese on the board, drew the sack over all, tied it up, put the board on a chair and set it in as cool a place as I could find. Every day for four weeks I took the cheese out, rubbed it well, and if necessary, used a little more butter, turned it over on the board and carefully tied it up. This cheese weighed 5¾ pounds, and at five weeks old was the best cheese I ever ate. By borrowing some milk, I made a cheese weighing 10½ pounds. This is a very nice size.

O. P. Cole, Nezperce, Idaho.—Our cheese making outfit was not very elaborate; 50 cents besides our own work covered the cost of it. A 5-gallon coal-oil can with the top cut out, set in a dishpan of water, composed the vat. Our curd cutter was a thin strip of wood 1½ inches wide, sharpened on both edges. Our hoop was a gallon can with both ends cut out. And our press was composed of a piece of plank 12 inches wide, 18 inches long, with two ½-inch bolts 12 inches long, one on each side of the hoop, with a cross-piece on top; the follower was cut out of a piece of inch board, made to fit loosely inside the hoop; and a floating dairy thermometer completed the outfit. We use Hansen's prepared rennet, one tablet being sufficient for 100 pounds of milk. Thirty pounds of milk was strained into the vat and then set on the stove and heated up to 86 degrees, and then the coloring was added (for coloring we use the juice from a pound of grated carrot), and a third of a tablet of rennet was dissolved in half a cup of cold water, the vat removed from the fire and the rennet added and thoroughly stirred through the milk and allowed to coagulate; in 45 minutes the curd was ready to cut, which was simply cross cutting about an inch apart. The vat was returned to the fire and the heat gradually brought up to 98 degrees, stirring gently to allow all the curd to heat thoroughly; half the whey was then drawn off, and the curd removed from the fire and allowed to ripen; in about an hour and a half, or when the curd would squeak when bitten between the teeth, all the whey was drawn off, the curd broken up by hand to the size of shelled corn, one and a half tablespoonfuls of salt added and, when cool, a piece of cheese cloth 18 inches square was placed over the hoop, and the curd packed in, and moderate pressure applied for three hours. The cheese was then taken from the hoop and a permanent bandage applied and returned to the press, and pressed again for about nine hours; then taken from the press, the cheese rubbed with melted butter, and kept in a temperature of about 70 degrees (we use our pantry), turning occasionally to keep them from mildewing. We make a cheese about 6 inches in diameter and 4½ inches thick, and weighs 5 pounds when taken from the press. No cream is taken from the milk, and we make a much better article than we can buy for 25 cents per pound. In the fall and early winter, when milk will keep, we have made cheese from one cow. It is as much work to make a small cheese as one four times as large. Cheese has taken the place of meat with us entirely, and we have had far less sickness since we have discarded meat for cheese.

Mrs. C. Burk, Richmond, Kan.—I will give my method of making cheese, which when once you have learned, requires no more care or labor than making a batch of good bread. A cheese weighing about 8 pounds when ready for use, will require ten gallons of milk, which put into a clean wash boiler. If you do not have that much from the morning's milking some of the evening's milk can be used. Heat to 85 degrees. Remove from the stove, add one rennet tablet, dissolved in one-quarter cup of warm water, also one-sixth of a cheese color tablet, also dissolved in water. I use Hansen's rennet and cheese color tablets; have never used any other. Add these to the milk after removing from the stove; stir well, cover with a folded woolen blanket. Let stand one hour. Now with a long-bladed, sharp knife cut in small squares clear to the bottom; let stand until some whey comes on the top. Spread some cheesecloth over the curd. Dip off some of the whey. Then with a flat skimmer stir and chop from the bottom up until all is fine as grains of wheat. Do this slowly and easily, or you will lose the cream. Let stand for a while, but occasionally stir it up and turn it over in order to free it from the whey. Now place a clothes basket slanting in a tub; in the basket spread a clean, wet cheese cloth. Dip the curd into this and let the remaining whey drain off. In the meantime heat a gallon of whey to 90 degrees, pour this slowly over the curd, working gently all the time. Salt to suit the taste; mix thoroughly with the hands. For a hoop you can use a wooden bucket with the bottom out. Set this on a clean board. Spread a square of wet cheese cloth evenly in hoop. Now dip in the curd, fold the cheese cloth smoothly over the top. Put on a round board that will fit the hoop. Place on your weights, not too heavy at first. Press dry as possible. Leave in press until evening. Take out, trim off uneven edges, put in a fresh wet cloth, other side up, and leave until next morning. Take out of press. Do not bandage, as it is more apt to mould; let dry for a short time, then rub well with melted fresh butter. Turn and rub every day for a week or more. Put a dry cheese cloth on a clean board, lay on the cheese, fold it over loosely, but taking care not to leave any opening through which a cheese fly might find its way. A warm, dry, airy room is best for ripening cheese. It must be watched and turned and rubbed if it shows signs of mould. Will be ready for use in four to six weeks, but will be better if kept longer. Can be kept as long as desired by putting in a box, wrapping the cheese in a cloth and rubbing occasionally to keep it free from mould.

SUMMARY.

The Editor has nothing to say, as he makes it a rule to write nothing about anything of which he knows nothing, and he certainly knows nothing about making cheese. But in reading over the various contributions he feels tempted to try to make some. Cheese making for family use should be more common on the farms, and we are of the opinion that even the sour milk cheeses that our Alabama correspondent writes about may be made very palatable, for we know that the "smear kase" we used to get as a boy in Philadelphia is good eating, and we have often had that at home. At any rate we are glad to have these methods of domestic cheese making and hope that they will encourage more who have never tried it to make cheese for home consumption from whole milk. The home-made cheese will certainly be better than the filled cheeses made from skimmilk and fortified with grease, which are so common on the market. Good cheese is a wholesome food and should be more plentiful on the farm.

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Care of Chicks in Rainy Weather.—During a number of weeks of wet weather we succeeded in saving our flock of several hundred chicks by using an extra coop in which dry chaff was placed. The hen from next coop moved into it, her coop cleaned and dry chaff added for the next hen; continued until all were dry and comfortable. It took only a few minutes and paid well. It was done when fed for the last time each night.
R 4, Lockport, N. Y. MRS. W. T. HALL.

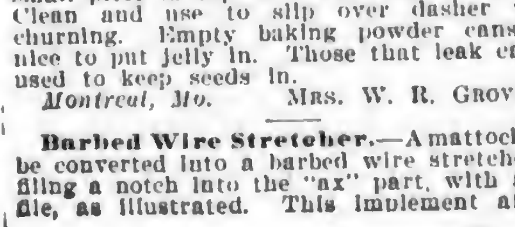
Farmer's Scrap Book.—Get some well bound book that is not worth much for anything else (a book catalogue will do). Make pockets in it by cutting out the top half of a leaf and paste down the remainder of leaf on the opposite leaf at the outer edge and bottom, or if you want two pockets on a page, paste strips across in centre and at bottom. Cut out every third or fourth leaf to prevent spreading the book. The advantage of this is, one can classify several clippings in one pocket and can be taken out any time. Very handy, neat and quick.
Butler, Ill. JASPER MACK.

End Posts for Wire Fence.—The most successful end post for a wire fence that I ever saw is to dig a hole 18 inches or more in diameter and 3 or 4 feet deep; then place the post and pack cobblestones firmly around the post. An old buggy axle is a good tool for the purpose. Then if there is a little fall, dig a ditch to drain the water away from the post and you will never see a post heave by the frost. Brace the end post well by means of a double strand of wire, connecting it from end post near the ground with top of next post, set not over 6 or 8 feet from the former, and possibly with another double strand of wire from this second post, near the ground, to a third post. Twist the double wires until they are quite tight. All posts, of course, should be set firmly and deeply. Neglect in setting and bracing the end or corner posts soon leads to trouble.
Welshfield, O. GEO. L. POOLE.

Pickling Cucumbers.—Gather the cucumbers every evening. Wash them nicely and clean; put down a layer of cucumbers, then a layer of salt, another of cucumbers, and so on until the vessel is filled. Put in a small lump of alum. Weight down. Put in no water at all. I have tried this many years with success and never lost one. They will keep a long time this way if plenty of salt is used. When wanted for use, take out, put in water, soak 24 hours, change the water three or four times and put in vinegar. They will be as nice and fresh as ones off the vines. MRS. M. M. WHEELER.
Hunt, Ark.

To Prevent Milk from Splashing When Churning.—Melt off the bottom and small piece in top of small sized oyster can. Clean and use to slip over dasher when churning. Empty baking powder cans are nice to put jelly in. Those that leak can be used to keep seeds in.
Montreal, Mo. MRS. W. R. GROVES.

Barbed Wire Stretcher.—A mattock may be converted into a barbed wire stretcher by filing a notch into the "ax" part, with a flat file, as illustrated. This implement affords great leverage and is convenient for stretching the bottom wire. The "hoe" part serves as fulcrum, and the strong handle as lever. Try it; you will be surprised at its efficiency.
Auburn, Ala. FRED. G. MATTHEWS.

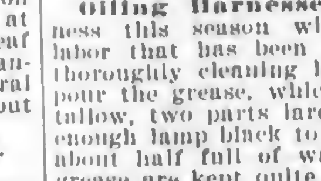


House Cleaning and Dressmaking.—In cleaning house always clean cupboards and bureaus first. Thereby save cleaning the room twice. Also in making a skirt, finish the seams before putting the skirt together, thereby save mussing it after it is put together. S. MARKWOOD.
Fairview, Pa.

Holding Hogs to Ring Them.—Take 2x4 scantling for end frames and make a good, strong box (but not too heavy) 2 feet wide at one end and 2½ feet at other end and 2 feet 8 inches high, with slatted top, so you can see hog come in and when to close stanchion. Put stanchion in narrow end with a good high lever on swinging piece, and a row of holes to hold different sizes of hogs, in top of frame. I have used this kind of a device for many a year and it holds the hogs perfectly as they always pull back and mostly hold steady. It is easily made, and cheap. S. A. KINTNER.
Ney, Ohio.

Canning String Beans.—Those who are fond of string beans should try canning them, as I did, for the first time last summer. The beans were gathered while tender, broken in pieces from one to one and a half inches in length, and boiled in water slightly salted, until done. One-half pint of vinegar to each quart of beans was then added and allowed to come to the boiling point. The cans were then filled, with just enough liquor to cover the beans, and just before sealing a piece of butter was placed on top to season them. Then screw the cover on tight and you will have beans that will keep a year, and are very nice in spring before other vegetables grow. MRS. S. G. UNLAND.
Arlington, Neb.

Home-Made Hog Tamer. — Take a round stick 3 or 4 feet long; bore three holes as shown, placing a stick 18 inches long through one end for leverage, and run a small rope through one of the others and back, and tie knot in end. To catch hogs easily you should have them in close pen. Slip noose over nose and draw up slack; then twist stick towards their nose and they will stand to receive rings. In this way I rung some weighing over 200 pounds alone, with all ease. I. J. HOLMES.
Chesapeake, Mo.



Stone Loader.—A convenient method of loading stone that cannot be easily lifted, is to procure two strong 4x4s, 8 feet long. Strong poles will do. Nail 2x4s, 2½ feet long on these 4x4s every 8 inches, with heavy nails as you would make a ladder, and 1x4s between them. With one end placed in the wagon and the other on the ground a heavy boulder may be rolled into the wagon.
Oneida, Kan. J. S. ANDERSON.

Oiling Harnesses.—We oiled our harness this season with about one-half the labor that has been required before. After thoroughly cleaning harness in soapsuds, we pour the grease, which consists of two parts tallow, two parts lard, one part fish oil, and enough lamp black to give color, into a kettle about half full of warm water. Water and grease are kept quite warm; as hot as it can be without injuring the harness. We dip the harness—which has been taken apart—into this and suspend on hooks over the kettle to drip. However, there is not much drip, except from snaps and buckles. The oil floats on top of the water and can be all taken up.
Lincoln, Mo. J. H. EYERLY.

To Stop a Sneeze. — Anyone who has watched by the bedside of a nervous patient, or a sick child, knows how annoying it is to feel compelled to sneeze, perhaps waking the patient out of a much needed sleep. Does everyone know that a sneeze can be effectually prevented simply by pressing your finger on the upper lip, half way between nose and mouth? It will certainly stop that sneeze and let your patient sleep in peace. To remove the white coating that will sometimes form on baby's tongue, dip a clean, soft rag in water in which you have dissolved a little borax, and wash tongue once daily.
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Cleaning the Kitchen Floor.—Take a pail of warm or cold water and sweep off with a broom and wipe up with mop. This will clean the floor much easier than the old way and will also preserve the paint.
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In this department we publish the Mistakes, Failures and Successes of our subscribers. They are equaly instructive and necessary, pointing the way to success. Subscribers are cordially invited to send accounts of efforts they have made which resulted in failure, as well as those which proved successful. Give in a few words your experience of anything connected with farm or household work. A cash prize of 50 cents for the best contribution, and 25 cents for each other contribution published, will be paid to P. F. yearly subscribers. Only helpful communications of value to P. F. readers will be accepted. The head of the column will be considered the position of honor each week. Send all communications to Geo. T Pettit, Oneida, Kan.

Growing Premium Cantaloupes.—Maule's Model in 1902. Selected well drained, sunny river bottom land of medium fertility. Marked off rows 10 feet apart and staked off hills 6 feet apart in the row. Dug a hole 3 feet square and one foot deep. In centre of hole I set upright a piece of 3-inch drain tile 16 inches long. Filled in around the tile with well rotted compost to a depth of 4 inches, then filled up hole, with the soil taken from bottom of hole on top, as it contains fewer weed seeds and insect larvæ than the top soil. Raise hill 2 or 3 inches above surrounding soil so it will be well drained. Planted seed after all danger of frost was passed, about 20 seeds in a circle a foot from the tile. When danger from bugs was passed we thinned to 4 strong plants to the hill. Used tobacco dust as an insecticide and fertilizer. Cultivated often, every four or five days. Pruned vines to cause early setting of fruit. Filled the tile every second morning with water, which kept manure at bottom of tile always moist. Once a week filled the tile with liquid manure made by filling a 50-gallon barrel half full of fresh horse manure, then filled barrel with water and let stand three days before using. Result, the most perfect and uniform sized melons that I ever raised. Sent Maule, of Philadelphia (my favorite seedsman), six melons that just filled a half bushel basket, and received in return, draft for $50 as first premium for six best melons sent him.

Carrollton, Ky. J. W. GRIFFIN.

Raising Rutabagas. In May I sow a hotbed on burnt brush heap to rutabaga seed, and about the middle of June I go all over the garden, potato patch and corn, and wherever there is a bare place where potatoes, corn or garden truck is missed, I plant rutabagas. Every plant that is set out means so much extra profit, as one cultivation does it all, or rather in cultivating corn or potatoes the rutabagas get their share. I find they come very handy in winter and early spring for sheep, chickens, hogs or cows. I don't like to see bare patches among potatoes or corn. Of course, this is for small home gardens. In field practice it might not be so profitable, as potatoes and corn come off sooner than the rutabagas. But those farmers who raise garden truck, potatoes and corn for family use will find them quite profitable. THEO. CRANZ.

Fisher, Ore.

Sheepskin Rug. Make one of these and see how nice it will be to put in the cutter next winter, and for many other purposes. To cure it, wash a fresh sheepskin in slightly warm soapsuds to which has been added a tablespoonful of kerosene oil. When clean put it in sufficient cold water to cover it. Now dissolve half a pound each of salt and alum in three pints of boiling water. Pour this over the skin and let soak for twelve hours, then hang up to drain. When nearly dry rub into the skin an ounce each of pulverized alum and saltpetre, or double this quantity if the skin is large. Rub for an hour or two, then fold skin sides together and lay it away for three days, rubbing it every day or until perfectly dry. Then with a blunt knife clear the skin of impurities, trim to shape and you will have a warm rug that will last a lifetime. E. E. LAWRENCE.

Spafford, N. Y.

Late Sown Clover Best. — I find by actual experience that the best time to sow clover seed is just before or soon after Easter Sunday. It used to be the regular practice here to sow the seed in February; in fact, for a while the people thought the earlier it was sown the better. I had this idea, too, and practiced it for many years. As my clover failed year after year I began to wonder why it froze out so badly. Upon sowing it one year very late I found it did not freeze at all, and I had a good stand of clover. When it is sown so early in this latitude the warm spells that we have in February and March start the seed to sprouting, then it freezes very hard and there is no clover hay to harvest. Therefore I would advise all farmers who use clover seed to not be in a hurry about sowing it next spring. Of course, it can be sown too late, but about the time mentioned brings best results with us. JOHN W. MITCHELL.

R 3, Pulaski, Pa.

Keeping the "Offal" Fresh.—What is popularly called "offal" at butchering time, consisting of liver, ribs, backbone, etc., is considered by many the choicest part of the carcass so long as it can be kept fresh. But a few days of soft weather calls for salt or it soon becomes tainted. Just put these parts in the refrigerator and fill the ice box. Ice is always plentiful and easy to get at that time and will keep the meat fresh and sweet indefinitely. Sausage and beef can also be kept in this way. J. N. ORR.

Rochester, Ind.

Failing to Get an Education. —"The mistakes of my life have been many," but the greatest mistake that I ever made was in failing to secure an education when circumstances and environment were favorable to such a course. These I failed to take advantage of and at the age of 15, when I was really just beginning to learn, I voluntarily left the school room and quit. I can now look back and see the folly of not improving my opportunities in this direction and failing to secure that which should be prized above wealth, honor or fame; in fact, everything except character. I am not an old man yet, but can now realize the importance of improving and cultivating the mind in youth; for what is to be gotten out of this life is to be gained only by the aid of knowledge, and the only proper way to gain this is to begin at the very foundation of the structure to improve and cultivate the talent when one is young. Parents, by all means, give your children a fair education whether they wish it or not, and in after years, when they come to see the real value of it, they will thank you for it. WM. C. GRAHAM.

Cedar Mills, O.

Improve the Rainy Days. — When there comes a rainy day many farmers start to town to spend the day. I always have a workshop of some kind, if only a tight shed with dirt floor. Put an old stove in to make it comfortable in cold or chilly weather. Fix up a work bench and saw horses and get a few tools, adding to them occasionally. Then gather up and save pieces of hard and soft timber, boards, etc., and have them ready to fix up and make many handy things. I have a home-made forge and an old anvil, and I save old buggy tires, rake teeth, etc., to fix things with. Rake teeth make good punches, screw drivers, etc., while old files hammered to different widths make good chisels. With a little practice one can make many handy things, repair tools and thus make the stormy days profitable. This is much better than spending time and money loafing around the stores in town.

DeKalb Junction, N. Y. H. N. POWELL.

Hogs Refused Artichokes and Children Ate Them. Two years ago one of my neighbors ordered a bushel of artichokes from a reliable seed house. He raised a fine crop and had bright hopes of producing a fine lot of pork cheap. He turned his hogs on after the artichokes had well matured, but they would not eat them. Thinking they would eat them if confined to but a small plat at a time, he made a movable pen and put his hogs in this, but the hogs would not touch them. I believe they would have perished before eating them. A large public school was near and the pupils were told to help themselves. This they did with a good deal of relish. It was thought they had rid the lot of artichokes, but on plowing the land in the spring a good many were found. Seeing artichokes often recommended as a food for hogs I thought this might be of interest to some who think of trying them.

Duncan, N. C. C. C. GETTYS.

Purchasing Fuel. Last summer when the roads were good the writer bought what he thought was a supply of coal at a nearby mine. Later on we decided to use coal in the cook stove, and as our supply was limited anyhow, we began to run low about Christmas. Dealers could not get it here at any price and men were hauling all the mine could get out every day. Teams would drive 20 miles to the mine and camp over night so as to be first in next morning, and they had to pay 1 cent a bushel more than in the fall. At the first opportunity we got 40 bushels and supposed all would get a supply during the warm spell in February. On the contrary there was more suffering for want of fuel after the warm spell than before, and as much as 15 cents a bushel was offered to hire it hauled 5 miles. This season we shall buy as much as we used last winter, or perhaps more, when it can be bought cheap and costs only 2 or 3 cents to haul. Some even went so far as to steal coal from cars on the switches at night, and perhaps in a few cases from their neighbors. J. F. WILLIAMS.

Findlay, Ill.

Good Floor for Hog Pen.—First cut poles of chestnut or other good wood, about 6 to 8 inches in diameter. Saw these into billets 8 or 10 inches long and fit them carefully together on end. Use a straight board to level with and be sure to get the floor thus made level all over the pen. Now get some good sand and fill all the crevices full, and you will have a floor that will last almost a lifetime. The best way to cut the billets is to hire a circular wood saw and engine, as it takes but a short time to cut them in this way. SAM'L GLICK.

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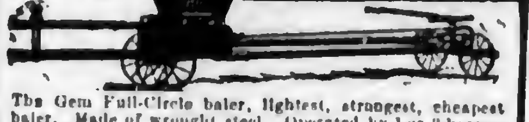

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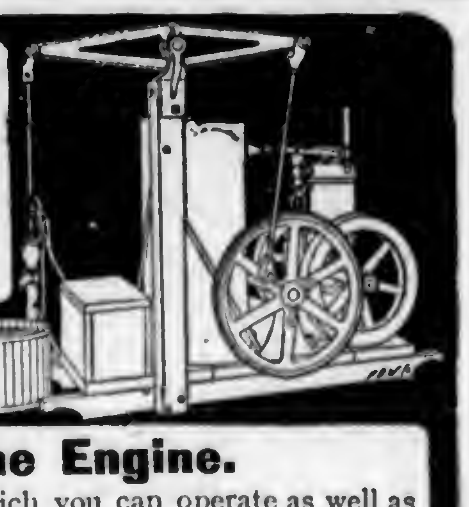

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